USER MANUAL

GlasCraft
DISPENSING EXCELLENCE

GUARDIAN

A5-6000 Dispensing System

For use with non-flammable foam and polyurea.
Not for use in explosive atmospheres.

Maximum fluid working pressure:
(1600 psi (11.0 MPa, 110 bar)

Important Safety Instructions
Read all warnings and instructions in this manual. Save these instructions.

THIS EQUIPMENT IS PROTECTED BY U.S.A. PATENT D546,840

THIS EQUIPMENT IS PROTECTED BY CHINESE PATENT ZL 200630130159.1

CE CERTIFIED

GlasCraft An ISO 9001 Approved Company

HO03

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Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

⚠ WARNING	
	ELECTRIC SHOCK HAZARD Improper grounding, setup, or usage of the system can cause electric shock. • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Use only 3-wire extension cords. • Ensure ground prongs are intact on sprayer and extension cords. • Do not expose to rain. Store indoors.
	TOXIC FLUID OR FUMES HAZARD Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed. • Read MSDS's to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines. • Always wear impervious gloves when spraying or cleaning equipment.
	PERSONAL PROTECTIVE EQUIPMENT You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to: • Protective eyewear • Clothing and respirator as recommended by the fluid and solvent manufacturer • Gloves • Hearing protection
	SKIN INJECTION HAZARD High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment**. • Do not point gun at anyone or at any part of the body. • Do not put your hand over the spray tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Close material shutoff valves, and then shut off or disconnect air supply when not spraying. • Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.

Warnings

⚠WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Ground all equipment in the work area.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operation immediately**. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

PRESSURIZED ALUMINUM PARTS HAZARD

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

MOVING PARTS HAZARD

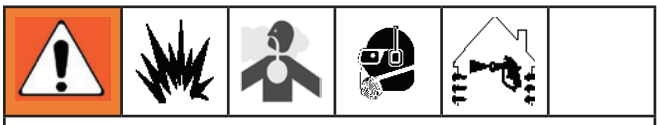
Moving parts can pinch or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** in this manual. Disconnect power or air supply.

BURN HAZARD

Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.

Isocyanate Hazard



Spraying materials containing isocyanates creates potentially harmful mists, vapors, and atomized particulates.

Read material manufacturer's warnings and material MSDS to know specific hazards and precautions related to isocyanates.

Prevent inhalation of isocyanate mists, vapors, and atomized particulates by providing sufficient ventilation in the work area. If sufficient ventilation is not available, a supplied-air respirator is required for everyone in the work area.

To prevent contact with isocyanates, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons, and goggles, is also required for everyone in the work area.

Moisture Sensitivity of Isocyanates

Isocyanates (ISO) are catalysts used in two component foam and polyurea coatings. ISO will react with moisture (such as humidity) to form small, hard, abrasive crystals, which become suspended in the fluid. Eventually a film will form on the surface and the ISO will begin to gel, increasing in viscosity. If used, this partially cured ISO will reduce performance and the life of all wetted parts.

The amount of film formation and rate of crystallization varies depending on the blend of ISO, the humidity, and the temperature.

To prevent exposing ISO to moisture:

- Always use a sealed container with a desiccant dryer in the vent, or a nitrogen atmosphere. **Never** store ISO in an open container.
- Keep the ISO lube pump reservoir filled with Graco Throat Seal Liquid (TSL), Part 206995. The lubricant creates a barrier between the ISO and the atmosphere.
- Use moisture-proof hoses specifically designed for ISO, such as those supplied with your system.
- Never use reclaimed solvents, which may contain moisture. Always keep solvent containers closed when not in use.
- Never use solvent on one side if it has been contaminated from the other side.
- Always park pumps when you shutdown.
- Always lubricate threaded parts with Part 217374 ISO pump oil or grease when reassembling.

Material Self-ignition

Some materials may become self-igniting if applied to thickly. Read material manufacturer's warnings and material MSDS.

Keep Components A and B Separate

CAUTION

To prevent cross-contamination of the equipment's wetted parts, never interchange component A (isocyanate) and component B (resin) parts. The gun is shipped with the A side on the left. The fluid manifold, fluid housing, side seal assembly, check valve cartridge, and mix chamber are marked on the A side.

Foam Resins with 245 fa Blowing Agents

New foam blowing agents will froth at temperatures above 90°F (33 °C) when not under pressure, especially if agitated. To reduce frothing, minimize preheating in a circulation system.

Changing Materials

- When changing materials, flush the equipment multiple times to ensure it is thoroughly clean.
- Always clean the fluid inlet strainers after flushing.
- Check with your material manufacturer for chemical compatibility.
- Most materials use ISO on the A side, but some use ISO on the B side.
- Epoxies often have amines on the B (hardener) side. Polyureas often have amines on the B (resin) side.

Section 1 - Installation: Introduction

Introduction

Before operating, maintaining or servicing any **GlasCraft** system, read and understand all of the technical and safety literature provided with **GlasCraft** products. If you do not have the proper or related manuals and safety literature for your **GlasCraft** system, contact your **GlasCraft** distributor.

In this **GlasCraft** technical and safety publication, the following advisories will be provided where appropriate:

Information about the procedure in progress.

Is imperative information about equipment protection.

⚠ CAUTION

Indicates a hazardous situation that can result in minor or moderate injury.

⚠ WARNING

Indicates a hazardous situation that can result in death or serious injury.

⚠ ELECTRICAL SHOCK HAZARD

Indicates a hazardous situation that can result in electrical shock or serious injury.

The information in this document is intended only to indicate the components and their normal working relationship typical use. Each assembly should be directed by a **GlasCraft** distributor or made from the **GlasCraft** Assembly instructions provided.

This manual provides information for the assembly, operation, maintenance and service of this **GlasCraft** product as used in a typical configuration. While it lists standard specifications and procedures, some deviations may be found.

In order to provide our users with the most up-to-date technology possible, we are constantly seeking to improve products. If a technological change occurs after a product is on the market, we will implement that technology in future production and, if practical, make it available to current users as a retrofit, update or supplement. If you find a discrepancy between your unit and the available documentation, contact your **GlasCraft** distributor to resolve the difference.

Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting.

Section 1 - Installation: Standard Equipment

Model - A5-6000

Part	Description
GC1750 GC1752 GC1753	A5-6000 UNIT; 220V, 1PH, F A5-6000 UNIT; 220V, 3PH, F A5-6000 UNIT; 380V, 3PH, C
GCP2R2*	PROBLER P2 GUN
246075*	POWER LOCK HEATED HOSE
246050*	WHIP HOSE ASSEMBLY
313268	USER MANUAL
206995	FLUID, TSL, 1 QT. BOTTLE
GC0174	TRANSFER KIT; A5 AND A6 UNITS (DOES NOT INCLUDE TRANFER PUMPS

* Purchase separately

Recommended Repair Parts

Part	Description
GC1748	HEATER REPAIR KIT

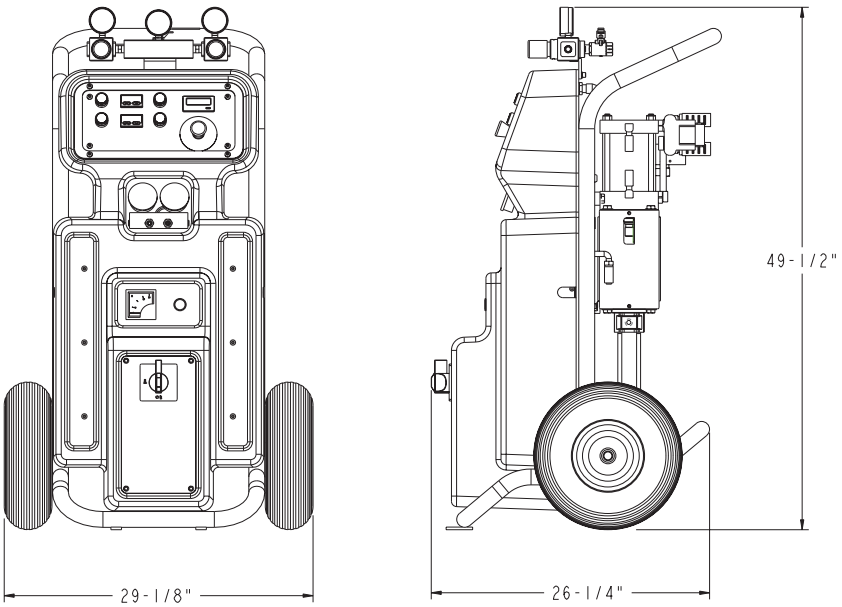
Related Manuals

Part	Description
312766	T1 2:1 RATIO TRANSFER PUMP INSTRUCTIONS-PARTS
309572	HEATED HOSE INSTRUCTIONS-PARTS
313277	MATERIAL PUMPS INSTRUCTIONS

Section 1 - Installation: Technical Data

Material Ratio:	1:1 (Fixed)
Material Viscosity:	200- 2000 Centipoise (Cps) @ AMBIENT
Output:	Pumps Rated: .042 Gallons Per Cycle .159 Liters Per Cycle
Operating Temperatures:	32º F (0º C) - 180º (82 º C)
Maximum air working pressure:	100 psi (0.69 MPa, 6.9 bar)
Maximum fluid working pressure:	16:1 RATIO 1600 psi (11.0 MPa, 110 bar)
Electrical Requirements:	50 A @ 208/240 VAC,50/60 hz, Single Phase (cable: 6 AWG, 2 wire + GND) 20 A @ 208/240 VAC,50/60 hz. Three Phase (cable: 8 AWG, 3 wire + GND) 20 A @ 380 VAC, 50 hz. Three Phase (cable: 12 AWG, 4 wire + GND)
Compressed Air Requirements:	Base Unit: 1.0 GAL PER MINUTE – 17 CFM @ 100 psi 1.5 GAL PER MINUTE – 24 CFM @ 100 psi 2.0 GAL PER MINUTE – 33 CFM @ 100 psi **NOTE:** As output is increased, (achieved w/ chamber size on gun or spray tip), pressure drop will be greater. Heating capability will also drop.
Heaters:	6000 WATT HEATER
Maximum Hose Length:	310 ft. (94.5 m) (Each Section 50 ft. x 3/8 in. I.D.)
Shipping Weight:	428 lbs. (194 kg)

Overall Dimensions:



Section 1 - Installation: Equipment Assembly

Guardian Line Installation Guide

GlasCraft Systems are factory assembled. If any questions arise concerning air or electrical connections, please refer to illustrations located in the forward portion of this User Manual or contact your GlasCraft distributor.

1. Locate Guardian.

a. Locate Guardian on a level surface.

b. Do not expose Guardian to rain.

⚠ **Bolt Guardian to orginanl shipping pallet before lifting.**

c. Use the wheels to move Guardian to a fixed location, or bolt to shipping pallet and move with forklift.

d. To mount on a truck bed or trailer, and bolt directly to truck or trailer bed.

2. Advanced preparation

a. Before beginning any installation, ensure that the applicator has the desired power supply available, (i.e. 220V single phase / 380V three phase), within 10 ft. of were the machine is to be placed. If the machine needs to be further that 10 ft. from the power supply, additional lengths of properly sized electrical cable will be required.

⚠ ***Never use a smaller gauge size than supplied by the factory!***

b. Depending on the electrical setup, it may be necessary to install an appropriate plug on the end of the cable. GlasCraft will not supply this plug, as we are unaware of which style will be needed.

c. Consult the data sheet for the specific unit being installed to determine the proper breaker size needed.

d. You will need to run an air line to the area where the machine will be placed. consult the data sheet the specific unit being installed to determine how much clean, dry air will be needed to supply the machine. If the air line is ***under*** 25 ft. use a minimum of 1/2 in. I.D. pipe or hose. If the air line is ***longer*** than 25 ft., use a minimum of 3/4 in. pipe or hose. Anything smaller than these diameters will severly affect the machine's performance!

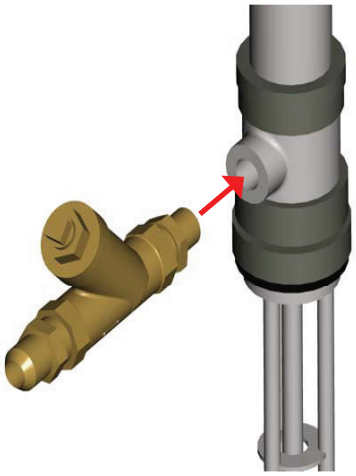
⚠ ***Do not use any quick disconnect fittings on the main air line going to the machine!***

Check your air-compressor to make sure it is capable of supplying the maximum amount of air that the machine requires. All GlasCraft equipment is rated at 25 CFM (cubic foot per minute) 708 liters @ 90-100 psi (0.62-0.7 MPa, 6.3-7.7 BAR) do not exceed 125 PSI (0.86 MPa, 8.6 bar).

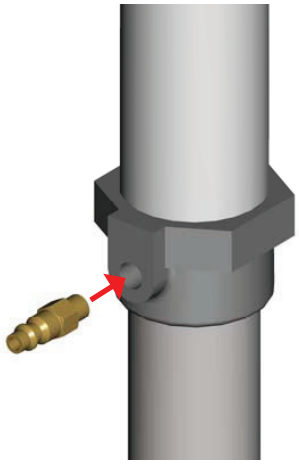
2. Move material drums to the area that the equipment will be placed, ensuring that they are not sitting directly on the floor. Simply place the drums on top of a pallet or similar device, so the drum bottoms will not be in contact with any cold surfaces.

3. Open all boxes that came with the machine and verify that all items are accounted for.

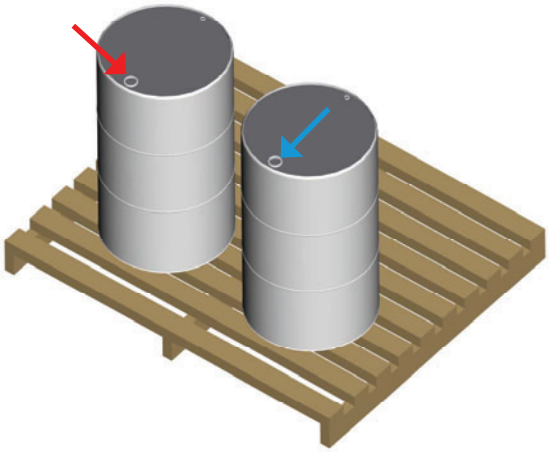
4. Install Y filters (provided in transfer kit GC0174) into outlets of both transfer pumps (purchase separately. *Be sure to use PTFE tape on the threads.*



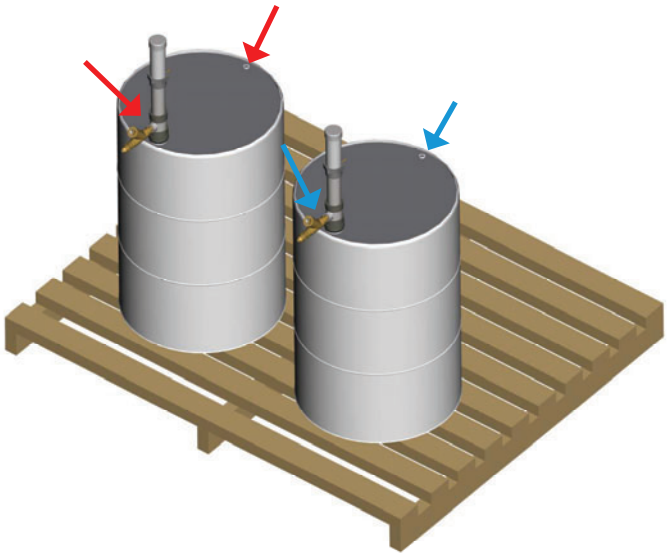
5. Install a male quick disconnect fitting to air inlet of both pumps. *Besure to use PTFE tape on the threads.*



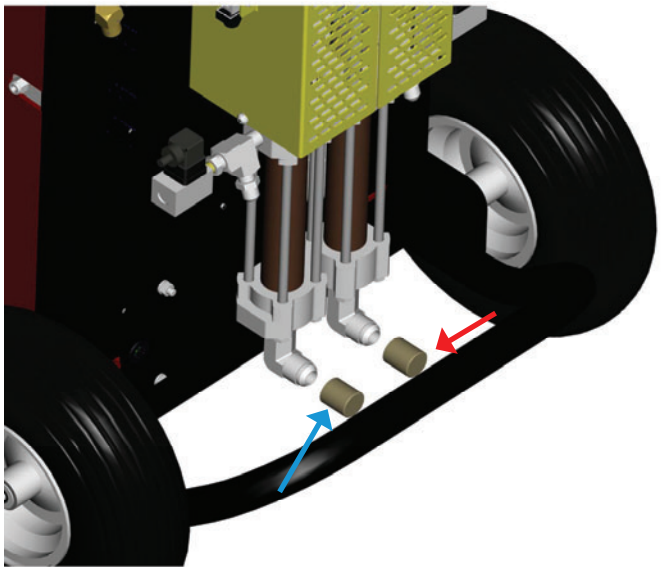
6. Remove the 2 inch bung caps on both the A and B side drums. Install the transfer pump collars/bung adapters into the bung holes, making sure to lubricate the threads with vaseline or grease, thus enabling easy removal when needed.



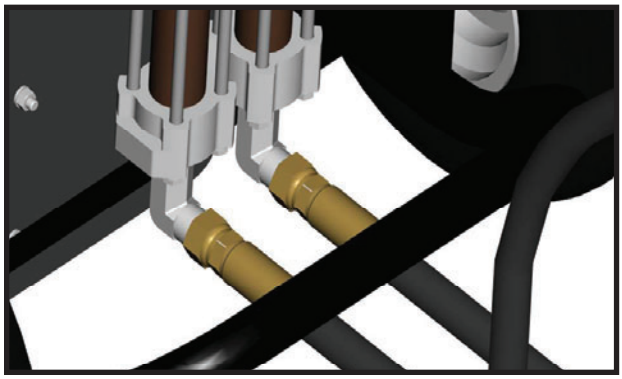
7. Make sure that the plastic caps have been removed from the bottom of the pumps and then slide the transfer pumps into the collars. Tighten the collars, securing the transfer pumps in place.
Loosen the 3/8 in vent plugs on both drums allowing for ventilation. If using a desiccant dryer on the A side, install it now.



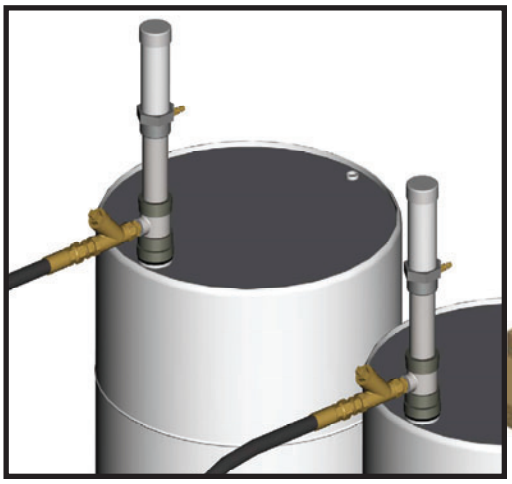
8. Remove the metal caps from the material pumps.

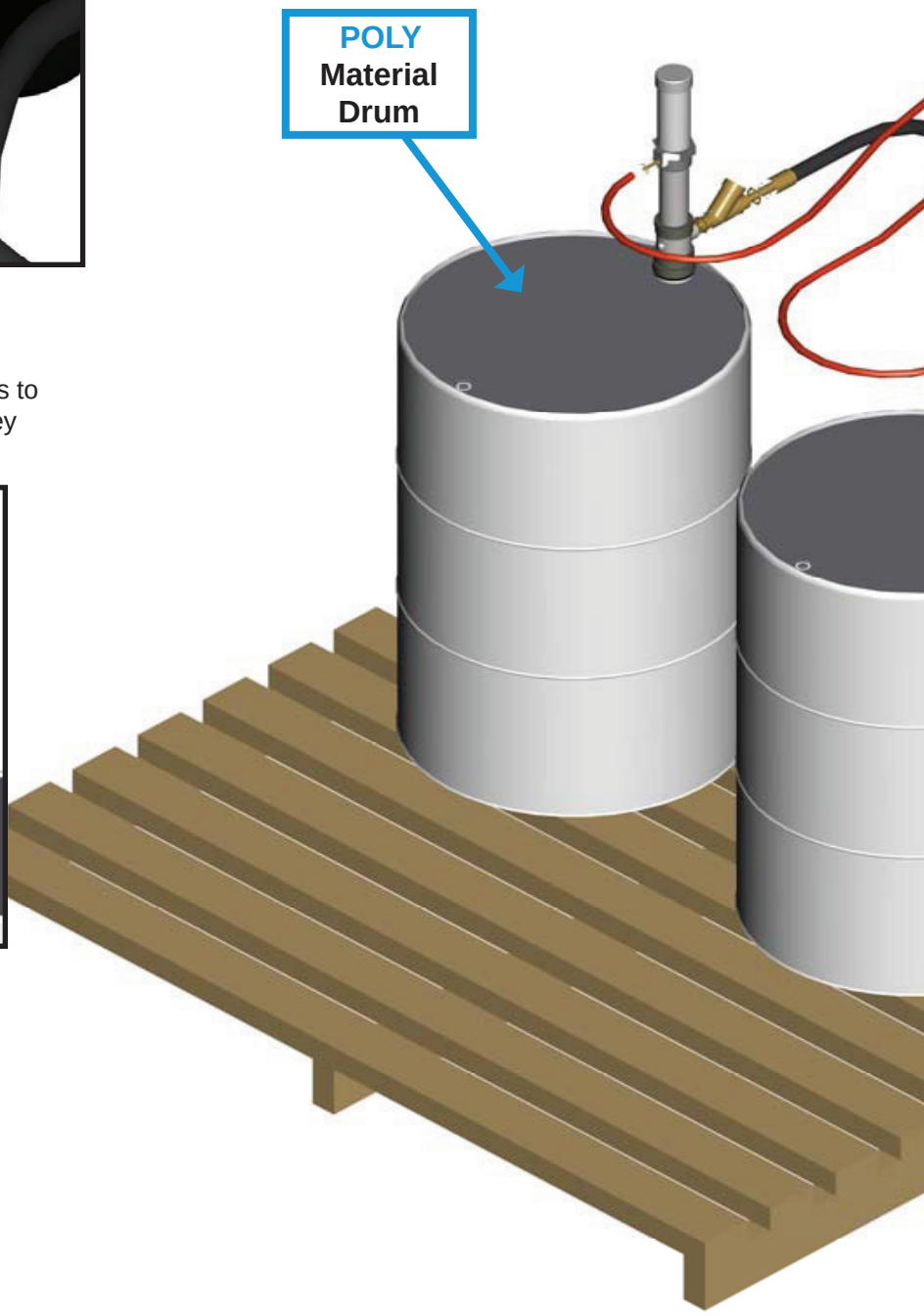


9. Connect one end of each material hose (provided in transfer kit GC0174) to the inlet fittings located on the back of the machine. *It is highly recommended that you label the (POLY) hose with BLUE tape and the (ISO) hose with RED tape to ensure that you don't put the wrong transfer pump in the opposite material drum.*

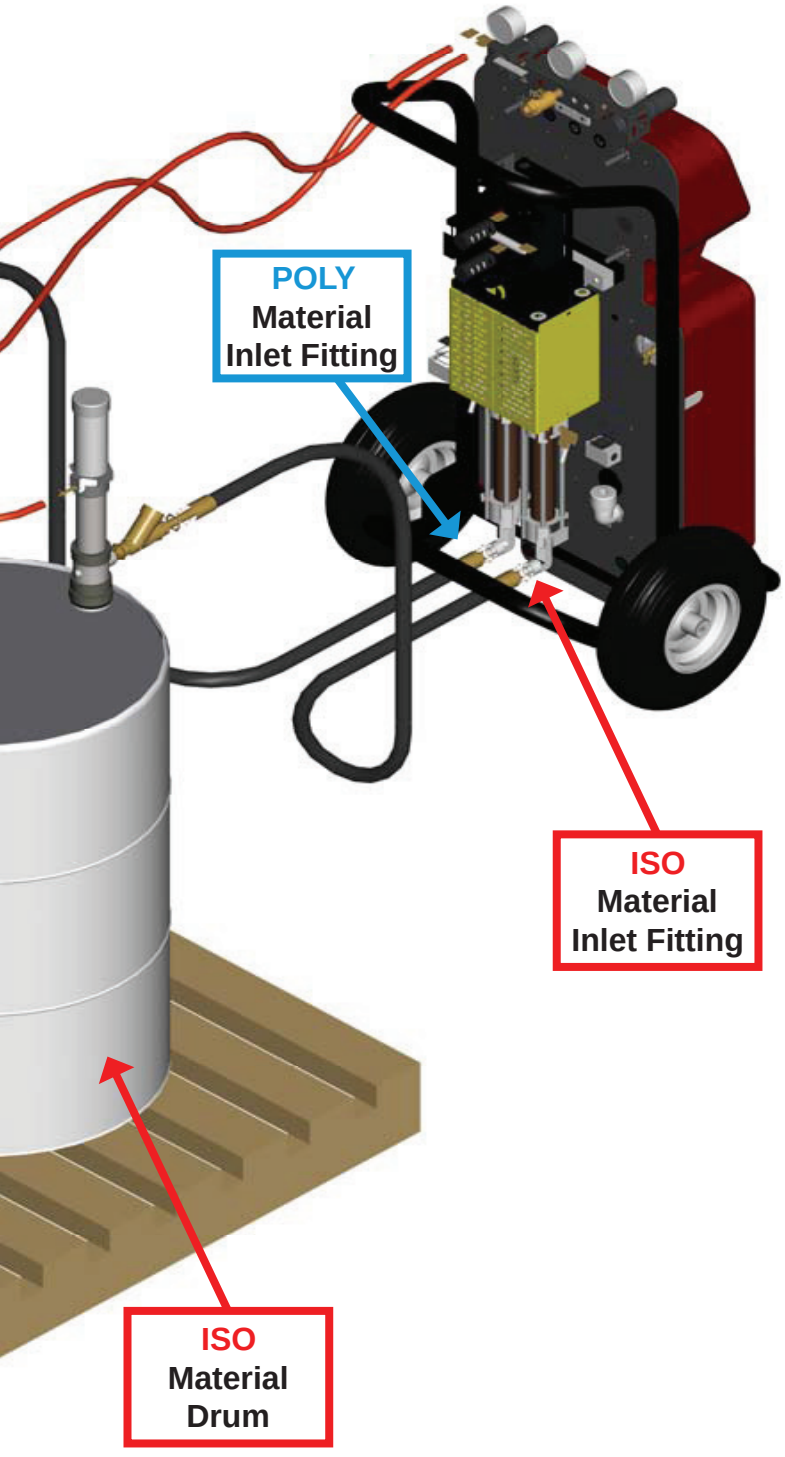


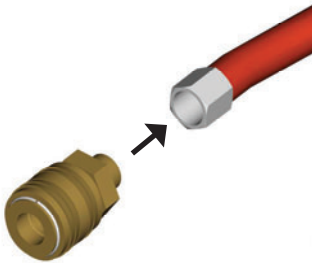
10. Connect the other end of the material hoses to the correct transfer pumps. Ensure that they are not reversed and tighten securely.



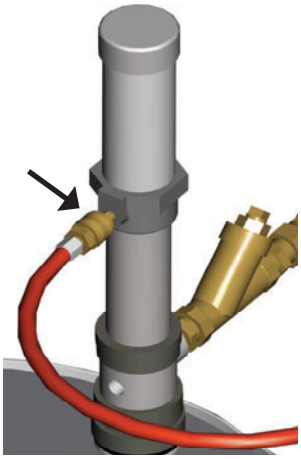


11. **a.** Install the female quick-disconnect fittings on to the ¼ in. air lines that came in the transfer kit. *Be sure to use PTFE tape on the threads.*

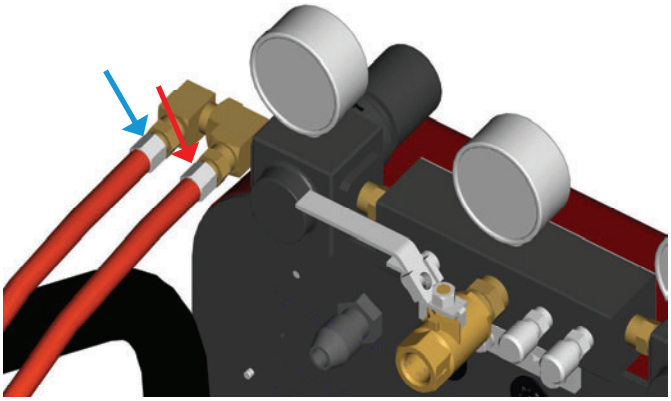




b. Attach the quick-disconnect fittings to the male receivers on the transfer pumps.

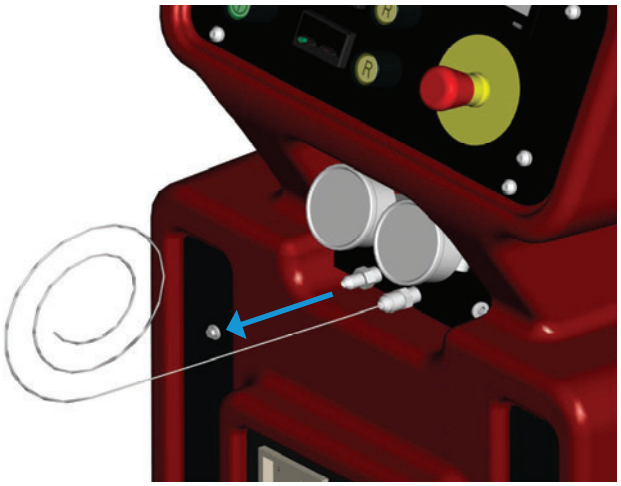


12. Attach the other end of the airlines to the far right regulator on the machines air manifold.



13. If the optional scuff-jacket is being used (highly recommended, sold separately) install it over each individual section of hose before proceeding any further. Securely tape both ends of scuff jacket to the hose assembly.

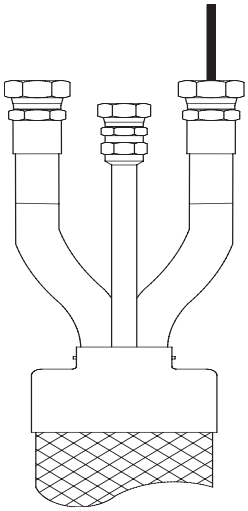
14. Locate the thermal couple wire protruding from the B side fitting on the front of the machine. Un-coil the wire and lay it out straight.



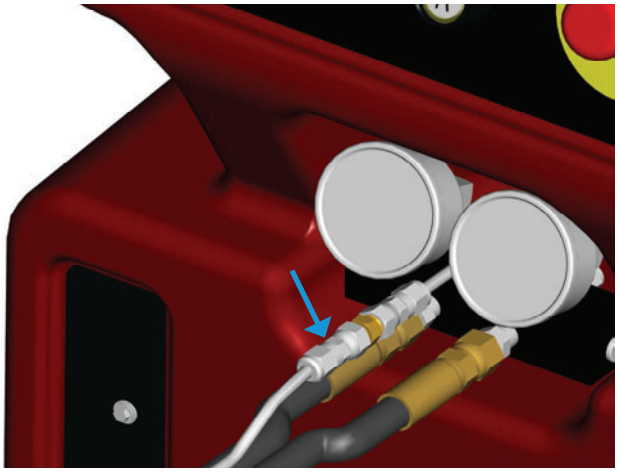
⚠ ⚠

Main power from power source should be disconnected or turned off to console before making hose connections.

15. Feed the the thermal couple wire into the B side portion of the hose and pull the rest of the hose up until you can connect the hose to the front of the machine. Tighten the hose securely, being careful not to twist the hose in an “un-natural” bend. Refer to the last page in this installation guide for instructions on how to secure hoses properly.

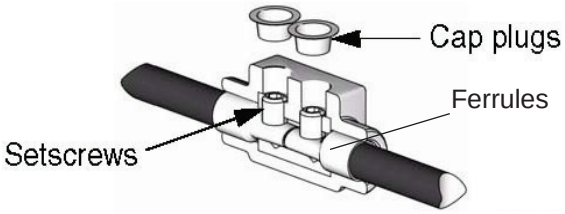


16. Connect the 1/4 in. air line on the hose assembly to the air line whip hose on the front of the machine.



17. Connect electrical wires using electrical connectors installed on unit.

Electrical Connector



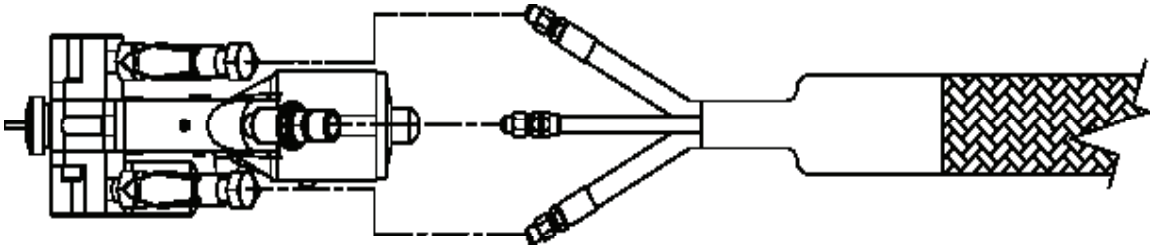
See Heated Hose manual 309572 for detailed instructions of connecting heated hoses.

⚠ Heated hose length, including whip hose, must be 60 ft. (18.3) minimum.

18. Add extra hose lengths if necessary.

19. Connect hose assembly and the gun as shown. The fittings on the hose assembly are sized differently and will attach only one way.

20. Pressure check hose. See Heated Hose manual 309572. Pressure check for leaks. If you do not find any leaks, wrap hose and electrical connections to prevent damage.



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*When main power to system console is on, the white and black wires in the console are **always live!** Disconnect or turn **off** main power source before opening console to make any repairs or before making any electrical repair of any type to the system.*

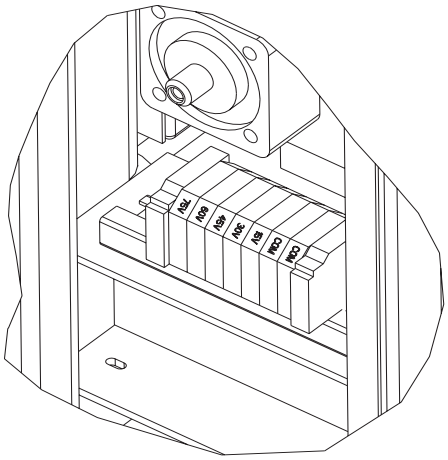
⚠ ⚠

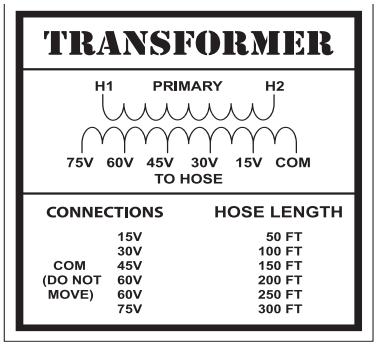
If you do not understand the electrical hook-up described above, consult your local GlasCraft distributor OR a qualified electrician.

Electrical connections must be checked on a periodic basis.

- 208/240 volt single phase
- L1 L2 GROUND
- 208/240 volt three phase
- L1 L2 L3 GROUND
- 380 volt three phase
- L1 (black)
- L2 (brown)
- L3 (black)
- L4 (blue)
- GROUND (green)

21. If more than 50 ft. of hose is used, the transformer tap setting will need to be set for proper hose length. The sticker on the front cover will say which tap to move the wire to. ***DO NOT MOVE THE COMMON LEG!***





Section 2 - Operation: Start-Up Instructions

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Never leave machine unattended while system power is on or system is running.
System running is defined as: preheat cycle of the hose heat, primary heaters, or any pump operation.
Machine operators must be familiar with the component functions and operation of the machine.

Pre-Operation Check List

A. Check that all fittings are securely tight.

B. Check electrical hook-up (qualified electrician recommended).

C. Main power switch on control box should be switched to ***OFF*** position.

D. Air regulator turned (counter clock-wise) to ***OFF*** position.

E. Hose control and primary heater control to ***OFF*** position.

⚠

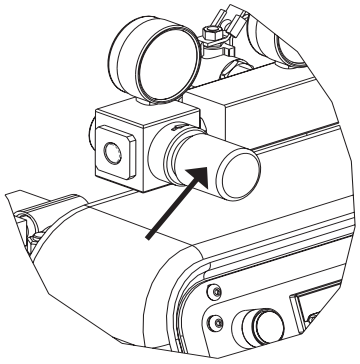
Do not place any part of the body in the path of the material spray.
Do not point the gun at or near other personnel.
Do not look into the Mixing Chamber orifice at any time.
Because of the hazardous materials used in this equipment, it is recommended that the operator use an air mask, goggles, protective clothing, and other safety equipment as prescribed by current regulations, recommendations of the chemical suppliers, and the laws in the area where the equipment is being used.

Initial Start-Up Procedure

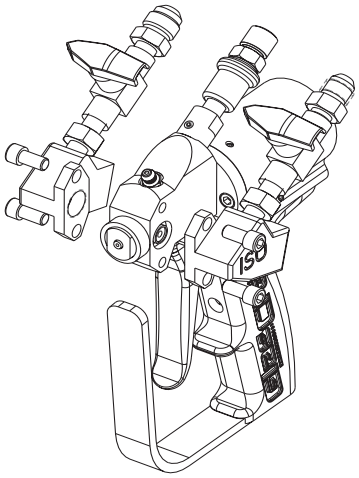
With all material and air lines connected and power cable attached, the system is now ready for start-up.

Filling The System

1. Adjust Air Regulator to 20 PSI to fill system. Air Motor will cycle slowly to fill Pumps, Heaters and Hoses and stop.

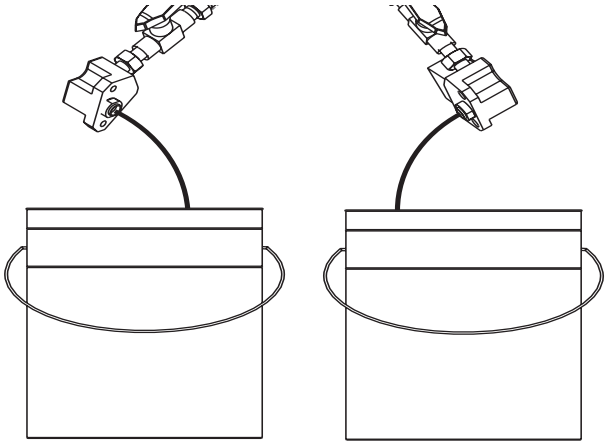


2. Remove ISO & POLY side blocks from gun.



PROBLER P2
MAKE SURE VALVES ARE OFF

3. Place separate clean containers under each individual side block. **Slowly** open material valves (black arrow forward) on each side block to allow trapped air to escape the hose and material to flow into the containers until all air is purged from the material system.



Remember to dispense one to two gallons of material to clear the system of grease and plasticizer that was used during factory testing.

4. Close manual material valves. Material pressure gauges should now register approximately equal pressure. If one side registers considerably more pressure than the other side, go to the high pressure side and bleed off some pressure by slightly opening the manual material valve on the side block over the container. Bleed pressure until both sides are approximately the same pressure.

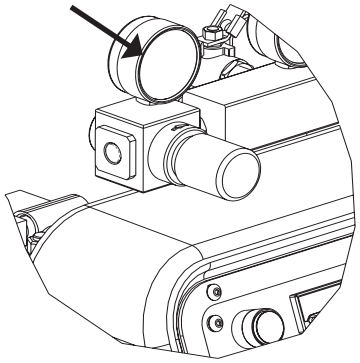
5. Dispose of waste material properly and in accordance with chemical suppliers instructions and local, state and federal regulations.

Before re-assembling side blocks, lubrication can be applied by dabbing a white lithium grease into holes inside of gun front housing and wiping grease over side block seals. Grease will purge itself when the air valve is turned on at gun and gun is triggered.

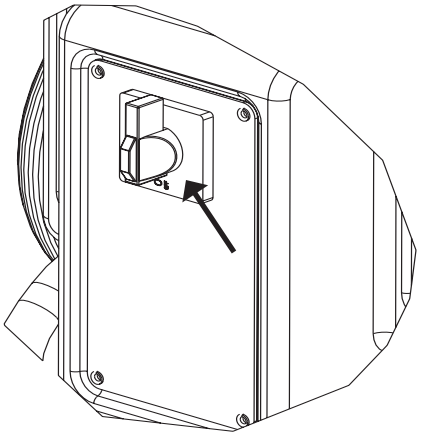
6. Clean and lubricate side blocks and seals thoroughly and re-assemble on gun. Make certain that the side block screws are tightened securely.

7. Refer to material manufacturers operating instructions for proper preparation of material, i.e, mixers, etc.

8. Leave air regulator at 20 PSI



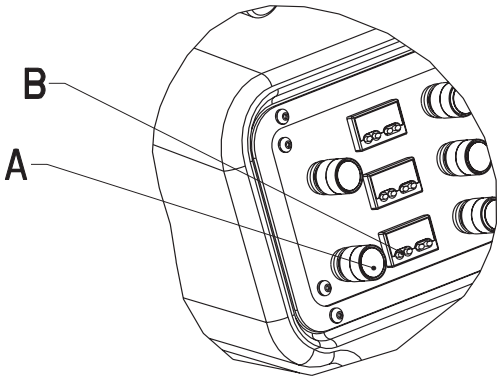
9. Turn main power Switch to ***ON*** position.



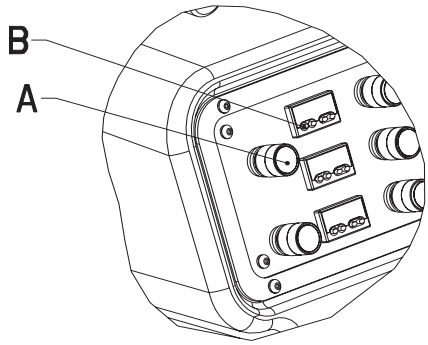
10. Turn on Hose Control:

a. Push in the green power button.

b. Press up or down arrow buttons on the controller until desired temperature setting is achieved.



11. Turn on the ISO & POLY Heater control:
- **a.** Push in green power button.
- **b.** Press up or down arrow buttons on the controller until desired temperature setting is achieved.

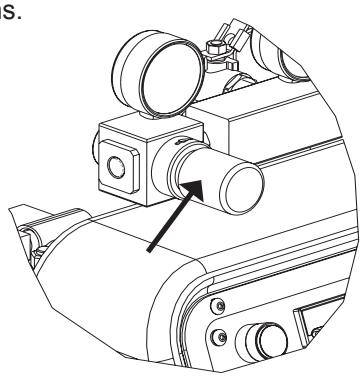


⚠
Straighten hose out flat, to avoid uneven heating and damage to internal wiring of the Hose Assembly.

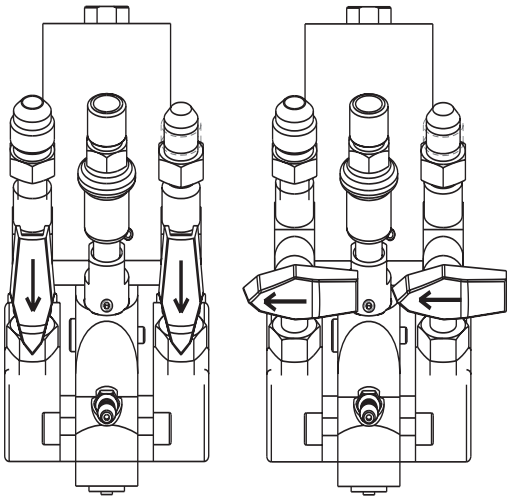
Allow enough time for hose to warm up (approximately 15- 20 minutes). Remember that the heated hose does not have a delta rating. The heated hose's function is to maintain the heat generated by the primary heaters during system operation, and preheat material during initial start-up. The hose should be set to maintain a temperature close to the set point of the heaters.

⚠
Due to the expansion of urethanes when heated, it is imperative that on cold start-up of the system that the heaters be turned on and allowed to reach operating temperatures before the main pump air regulator is adjusted to the desired spray pressure. If you do not allow the heaters to reach operating temperature before adjusting air pressure, the material pressure will exceed the set point of the over pressure switches causing the system to shut down.

12. Adjust main air regulator to material suppliers specifications.



13. Turn purge air and material valves ON at gun.



ON **OFF**

14. Relieve any excess pressure by triggering the gun.

The Emergency Stop Switch is located on the bottom right side of the control panel, when depressed, it will shut down the power and activate the air dump valve. To reset, turn handle on push button.

15. The system is now ready for operation.

Change Temperature Controller Display Units (Fahrenheit to Celsius)

The 220V units are factory set to display temperature units in Fahrenheit, and 380V units are set to display temperature units in Celsius.

To change display temperature units:

1. Press and hold the up and down arrow buttons on the controller simultaneously until the display reads **"SET"**. This is the Setup menu.

2. Press the down arrow button to scroll through the setup menu until the display reads **"C - F"**.

3. Press and hold the SET button to display the current setting of **"C" or "F"**.

4. Hold down the SET button and press the up arrow button to switch the unit setting to either **"C" or "F"**.

5. Release the SET button.

6. Press the Infinity button to exit the Setup menu and save the unit display change.

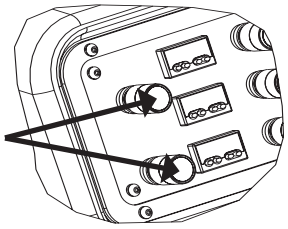
7. Complete steps 1-6 for all three controllers (ISO, POLY, and HOSE).

Do not change any other settings in the Setup menu. These settings are factory programmed for optimal performance.

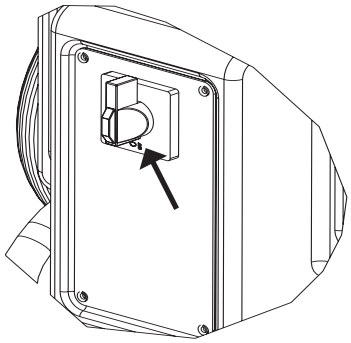
Section 2 - Operation: Shut-Down Instructions

Daily Shut-Down Procedure

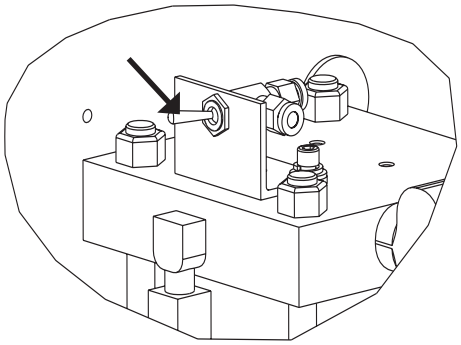
1. Turn off hose and heater controllers.



2. Turn off main power switch.

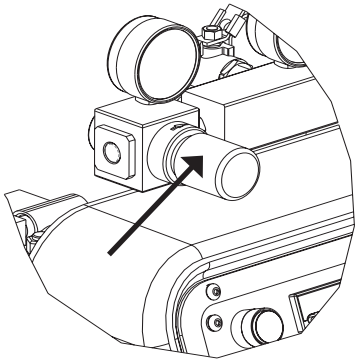


3. Flip retract switch to the "*retract position*" and trigger the gun until pumps are in the down position.



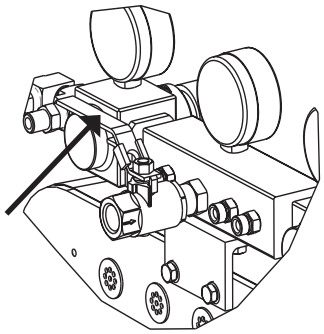
4. Perform gun maintenance. (See gun manual)

5. Reduce main air regulator pressure to zero.



6. Visually inspect the entire system for leaks.

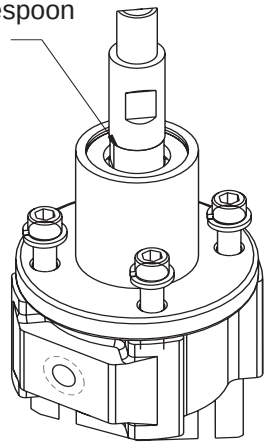
7. Turn off main air supply and main power.



8. Coil heated hoses with a minimum four foot diameter to avoid kinking and subsequent damage to the internal electrical wiring.

9. Check and lube top of the fluid section.

Wipe off residual material and add a tablespoon of TSL



⚠

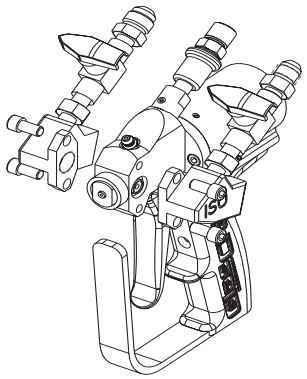
Do not bleed fluid pressure from the system.

Extended Shut-Down Procedure

The following procedure is for long extended shut-down periods.

Power should be disconnected and all air regulators turned down to zero.

1. Remove side blocks from the gun and relieve pressure from the system.



PROBLER P2

2. Use a suitable solvent to flush the fluid circuits. To determine the compatibility of solvents with material being used. Always check with material supplier.

3. Increase transfer pump pressure until fluid movement occurs.

If fluid movement does *NOT* occur @ 100 psi (0.7 MPa, 7 bar) of air on transfer pumps, increase main pump pressure until the main proportioner *SLOWLY* starts cycling.

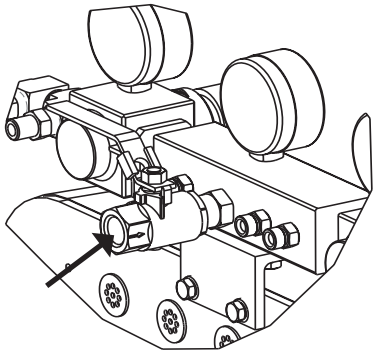
4. Once primary material is flushed from the system, reduce the main air pressure to zero or flip the retract switch to the "***retract position***" and trigger the gun until the pumps are in the down position.

5. If the solvent used to flush the system also contains placticizer, ensure that all primary material is flushed from the system and close the ball valves at the gun.

6. Leave the pumps in the full down stroke position with approximately 200-500 psi. (1.4-3.4 MPa, 14-35 bar) on the fluid gauges.

7. If plasticizer is required to chase out solvent, cycle main pumps until the system is full of plasticizer, then close valves and leave the pumps in the full down stroke position with 200-500 psi. (1.4-3.4 MPa, 14-35 bar).

8. Turn off main air supply and disconnect air line from the system.



9. Generously coat the exposed transfer pump shafts with lithium grease.

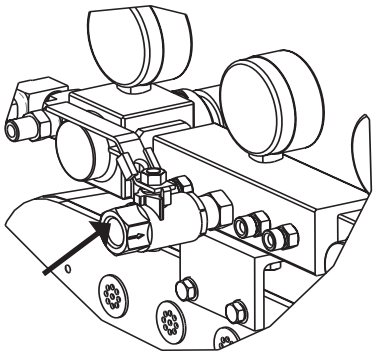
10. Coil the heated hoses with a minimum four foot diameter to avoid kinking and subsequent damage to the internal electrical wiring.

11. For gun shut down, follow the procedure from the gun manual.

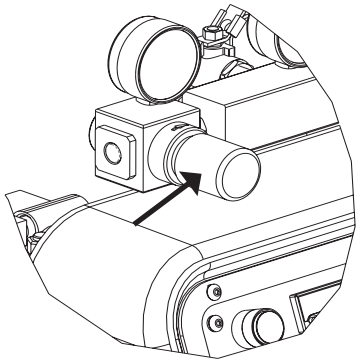
12. The length of time a system is shut down, and the climate conditions it's stored in will determine how often the system should be purged and refilled. Usually every 2 - 4 weeks the following procedure should be followed.

Purge and Refill Procedure

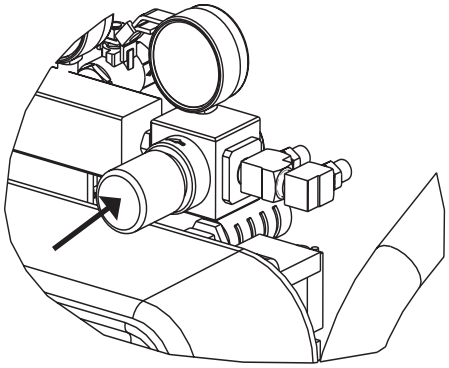
1. Connect the main air line to the system.



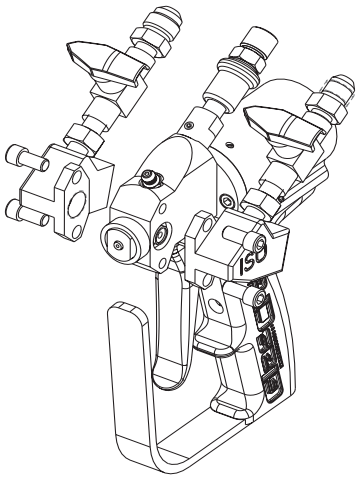
2. Adjust main air regulator to 20 psi.



3. Adjust transfer pump regulators to approximately 40 psi.

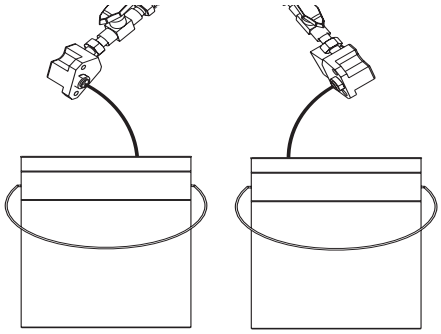


4. Remove the side blocks from the gun.



PROBLER P2

5. Open both side blocks simultaneously into separate containers and dispense approximately 1-1/2 - 2 gallons of material from each side or until all plasticizer is purged from the system. Stop the pumps in the down position.



6. Close both side blocks simultaneously and wipe off residue from the side block seals. Regrease and attach both blocks to the gun.

7. Mix and properly dispose of purge material.

⚠

Before performing any repairs on the system,
ALL AIR and FLUID PRESSURES SHOULD BE RELIEVED TO ZERO (BLEED-OFF)!

To Relieve Air And Fluid Pressures:

System Console:
1. Turn OFF valves that supply material to the pumps.
2. Turn OFF main air regulator on air motor.

Gun:
1. Open both Side block material valves.
2. Turn ON air switch.
3. Point gun into a clean, suitable container and trigger gun until material flow stops.
4. Fluid pressure gauges must read zero (0), if not, trigger gun until the fluid pressure gauges do read zero (0) pressure.
5. Turn OFF side block material valves.
6. Trigger gun several more times to purge any material remaining in gun. Turn OFF air switch.
7. Unless system is to be returned to service at once, follow DAILY SHUT-DOWN PROCEDURE

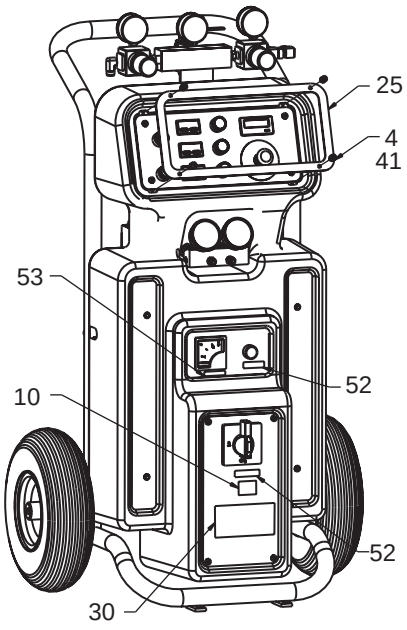
⚠ ⚠

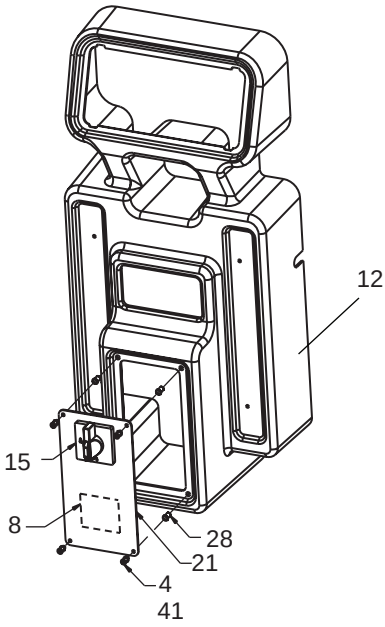
Before performing any repairs on any part of the system,

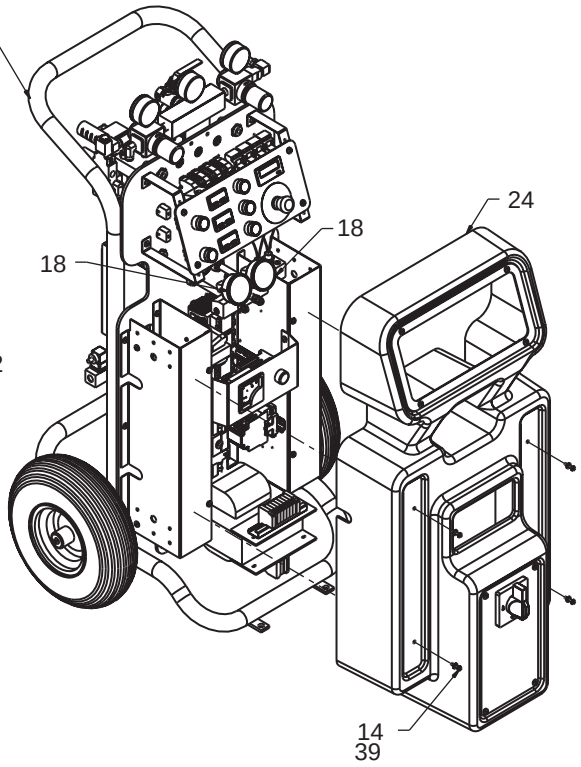
PLACE ALL CONTROLS ON THE MACHINE AND THE MAIN POWER SOURCE IN THE OFF POSITION AND DISCONNECT THE ELECTRICAL POWER CABLE FROM THE MAIN POWER SOURCE!

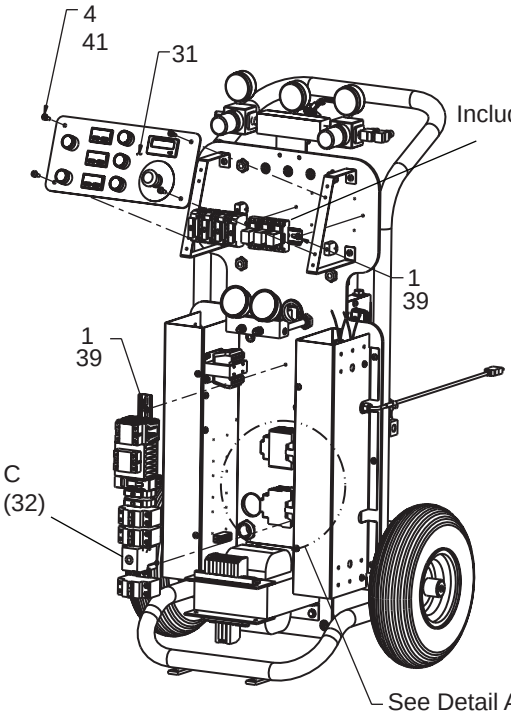
Section 3 - General Information: Assembly Drawings

Guardian A5-6000 Assemblies

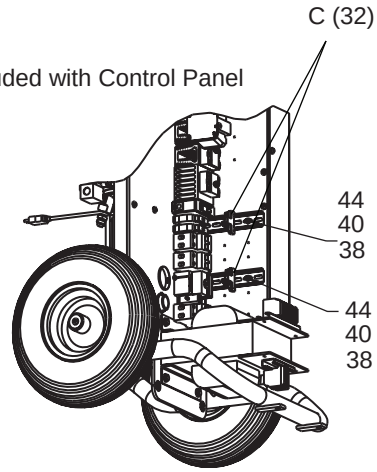






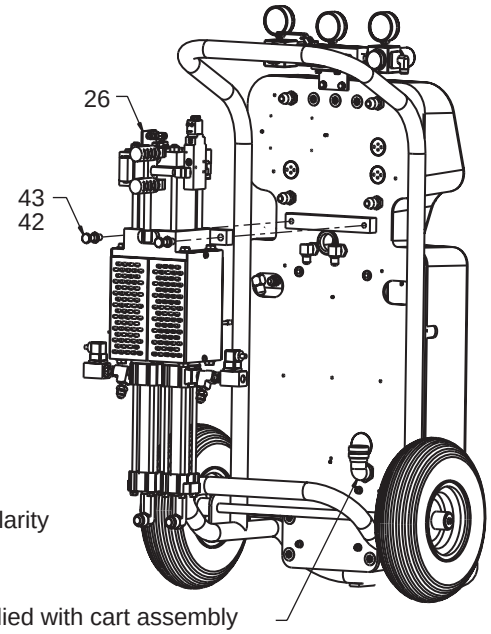


Some parts have been removed for clarity



Detail A

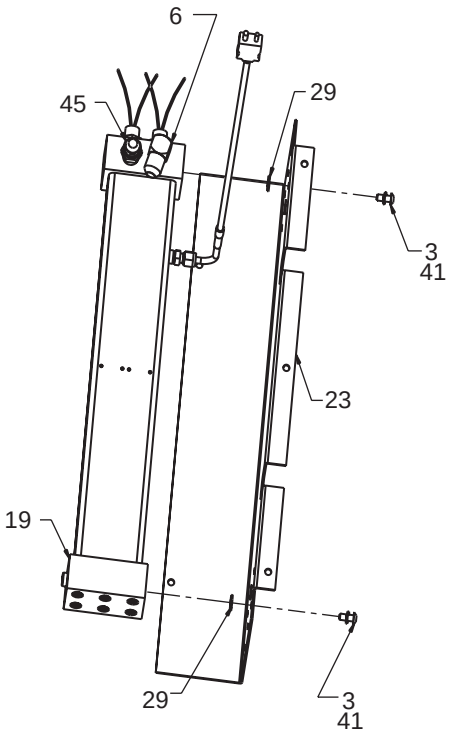
Some parts have been removed for clarity

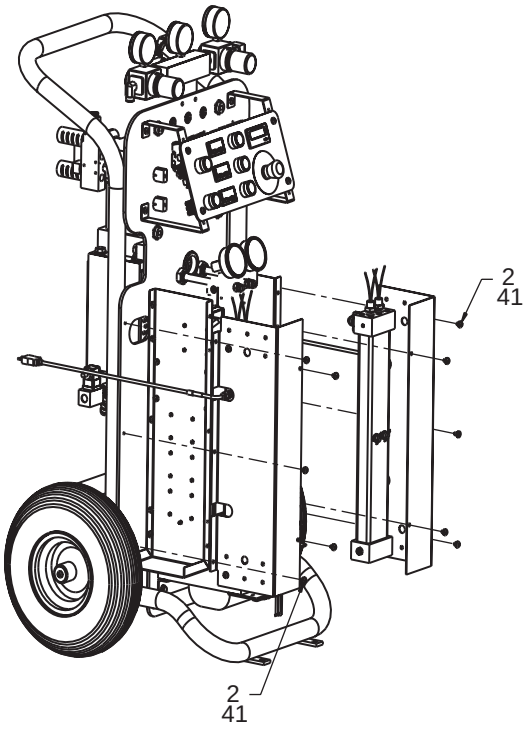


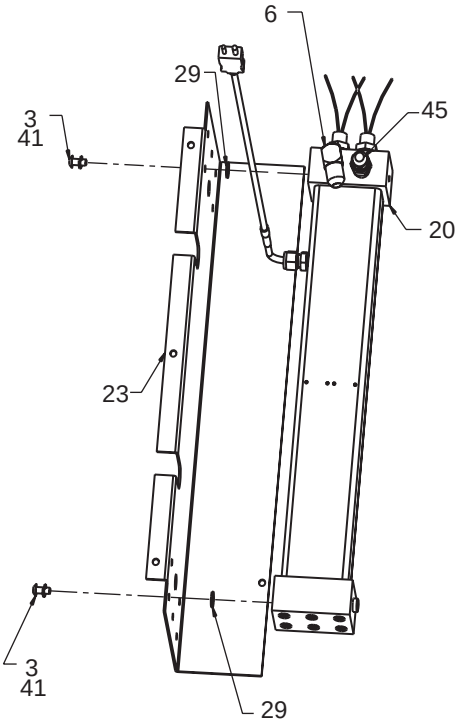
Supplied with cart assembly

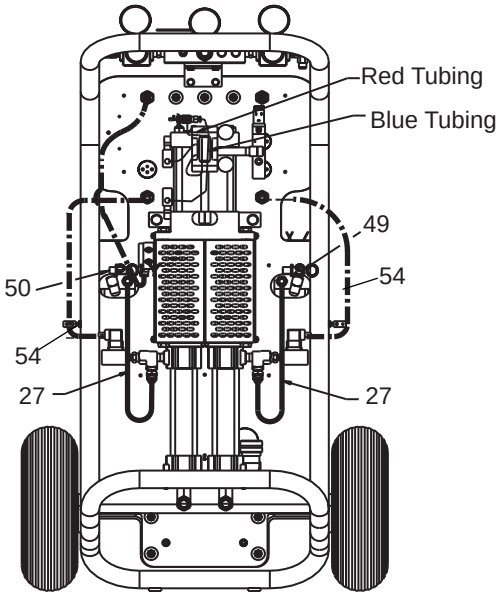
Part	C	# Phases	Voltage
GC1750	GC2440	1	220
GC1752	GC1758	3	220
GC1753	GC1760	3	380

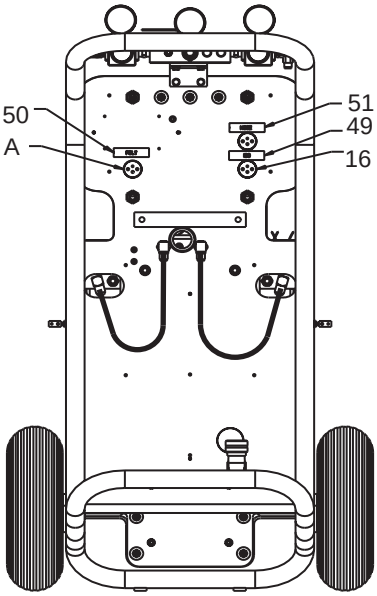
Section 3 - General Information: Assembly Drawings

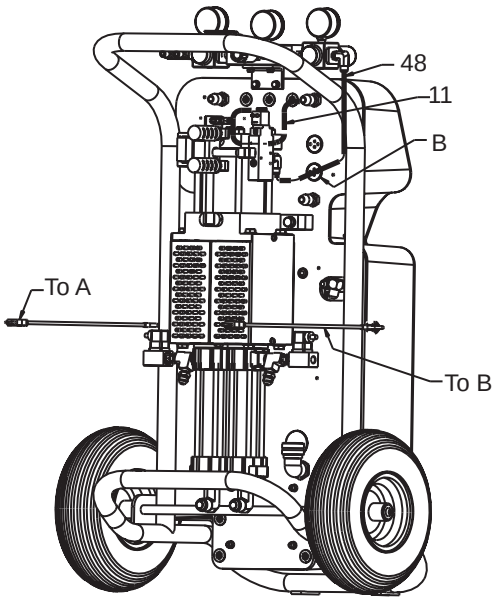










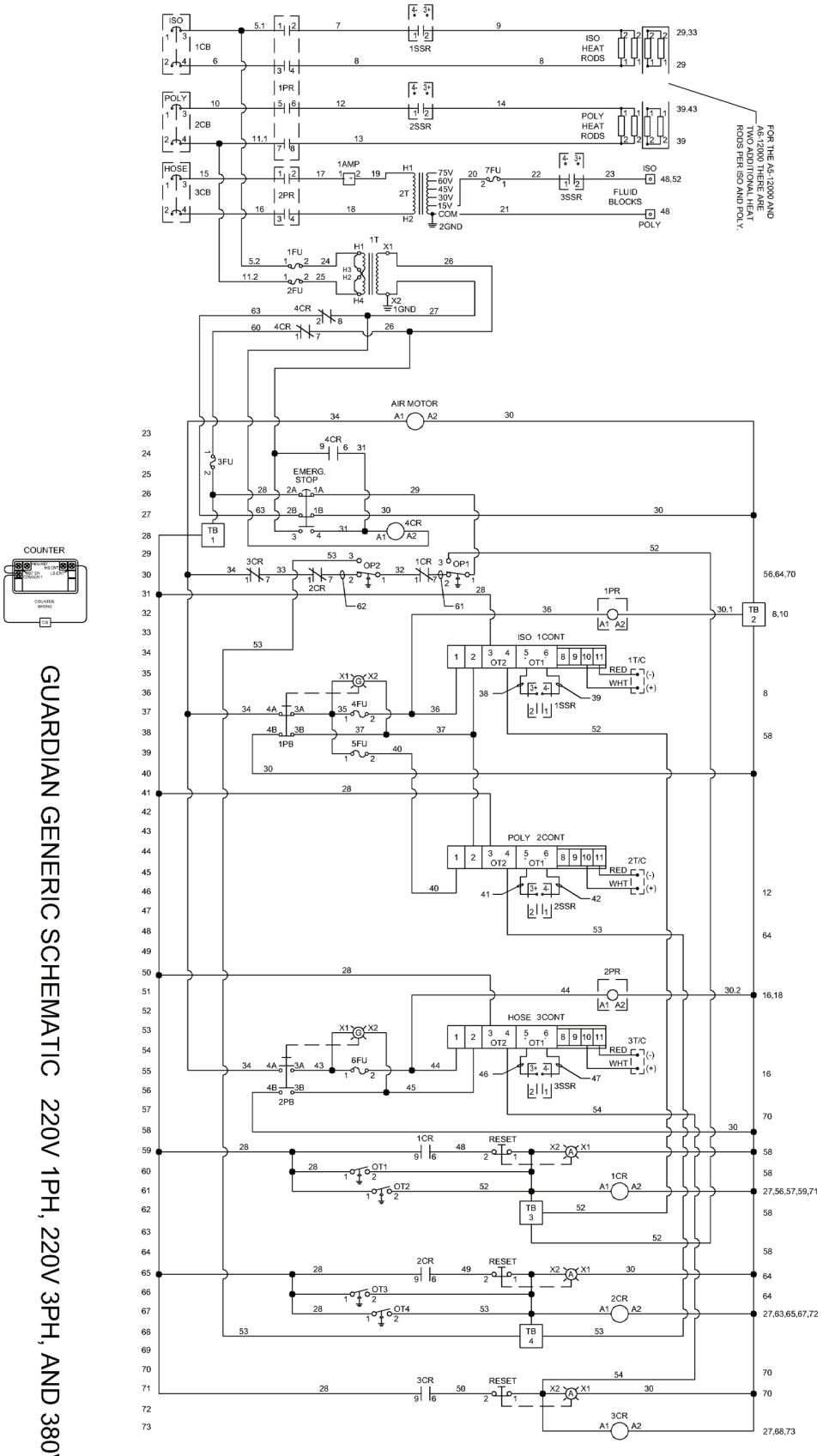


Section 3 - General Information: Assembly Drawings

Parts

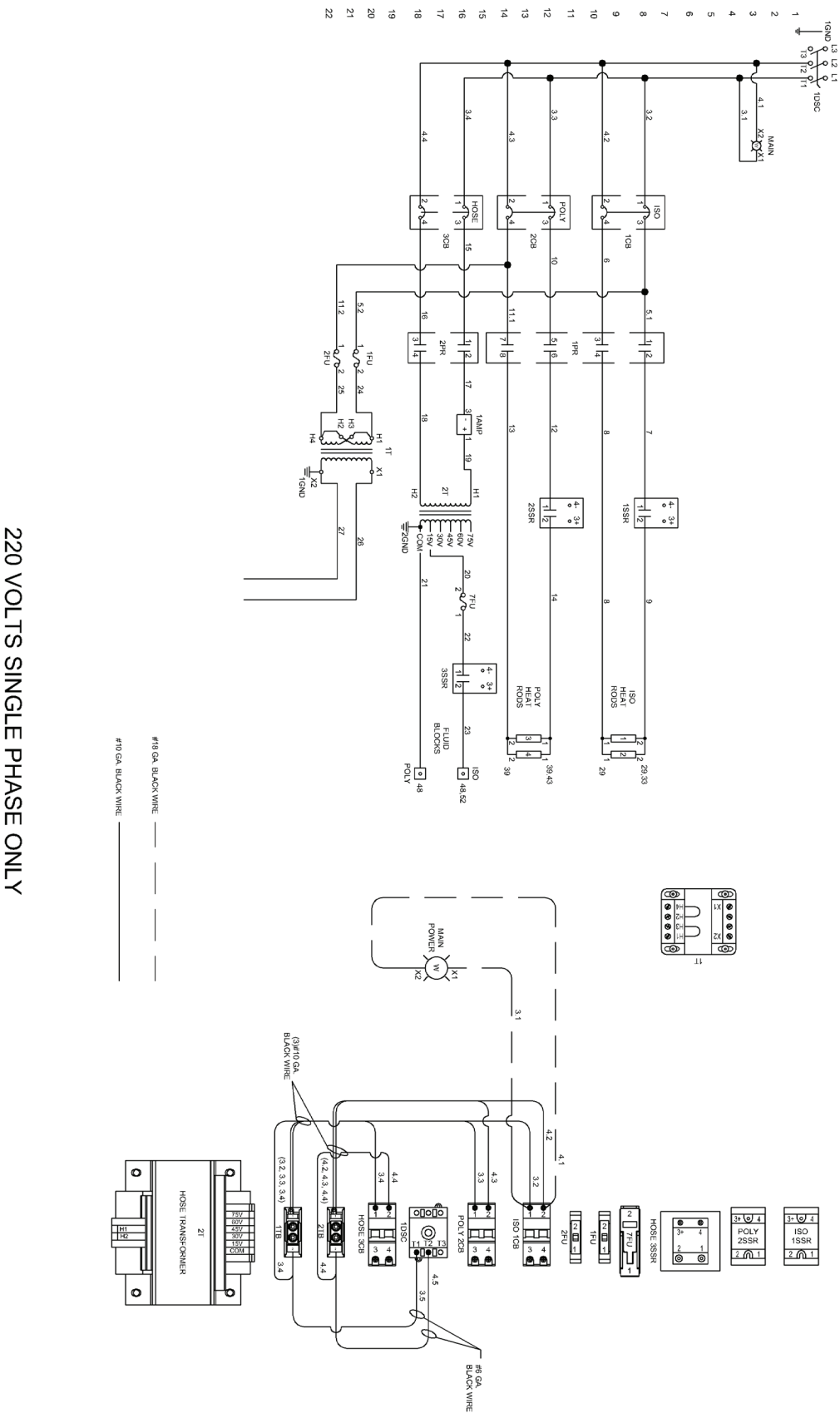
Ref.	Part	Description	Qty.
1☆		RIVET, BLIND	5
2	112925	SCREW, CAP	10
3	GC0433	SCREW	4
4	GC0434	SCREW	12
6	GC0578	ELBOW, JIC; 3/8 NPTM X 3/4 UNF S	2
7☆		WIRE, #6 THHN, BLK; 7.0830 FT.	
8	GC0586	LABEL, TRANSFORMER	1
10▲	GC0797	LABEL, LIVE WIRE	1
11	GC0811	CONNECTOR	1
12▲	15G280	LABEL, WARNING	1
13❖	GC0834	HOSE, ASSY, THERMOCOUPLE	1
14☆		SCREW, SELF-TAP; 2 IN., #10	4
15	GC1071	SWITCH, POWER	1
16	15W209	JACK, PANEL, CIRCULAR	1
17☆❖		CABLE, POWER; 11 FT.	
18	GC1181	GAUGE, PRESSURE, 3000PSI, BACK MT	2
19	GC1714	HEATER, ASSY, HEATER, DUAL, ROD, ISO	1
20	GC1716	HEATER, HEATER, DUAL, ROD, POLY, 1500	1
21	GC1718	PLATE, BOTTOM	1
22		CART, ASSY., SEE PG. 29	1
23	GC1725	COVER, HEATER	2
24	GC1726	COVER, SHELL	1
25	GC1730	RING, PANEL, CONTROL	1
26	GC1734	PUMP, ASSY., SEE MANUAL 313277	1
27	GC1744	HOSE, ASSY.	2
28☆		NUT, RIVET	4
29	GC1746	WASHER, FIBER	4
30	GC1755	LABEL	1
31		CONTROL, PANEL; SEE CONTROL PANEL ASSY. PAGE	1
32		MODULE, ELECTRICAL; SEE ELECTRICAL ASSY. PAGE	1
38	GC2052	WASHER, FLAT	4
39☆		WASHER, FLAT	9
40	GC2107	WASHER, LOCK, SPRING	4
41	GC2109	WASHER, LOCK, SPRING	26
42	GC2112	WASHER, LOCK, SPRING	2
43	GC2175	SCREW	2
44	GC2192	SCREW	4
45	GC2203	FITTING	2
48☆		HOSE, P.E., 0.500OD NATURAL; 1.4 FT.	
49	GC2363	LABEL, ISO	2
50	GC2364	LABEL ,POLY	2
51	GC2365	LABEL, HOSE	1
52	GC2368	LABEL, MAIN	2
53	GC2369	LABEL, HOSE	1
54	GC0805	SWITCH, PRESSURE, HIGH	2
55❖	261821	CONNECTOR, HEATED HOSE	1

☆ *Purchase locally.*
❖ *Not Shown.*
▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

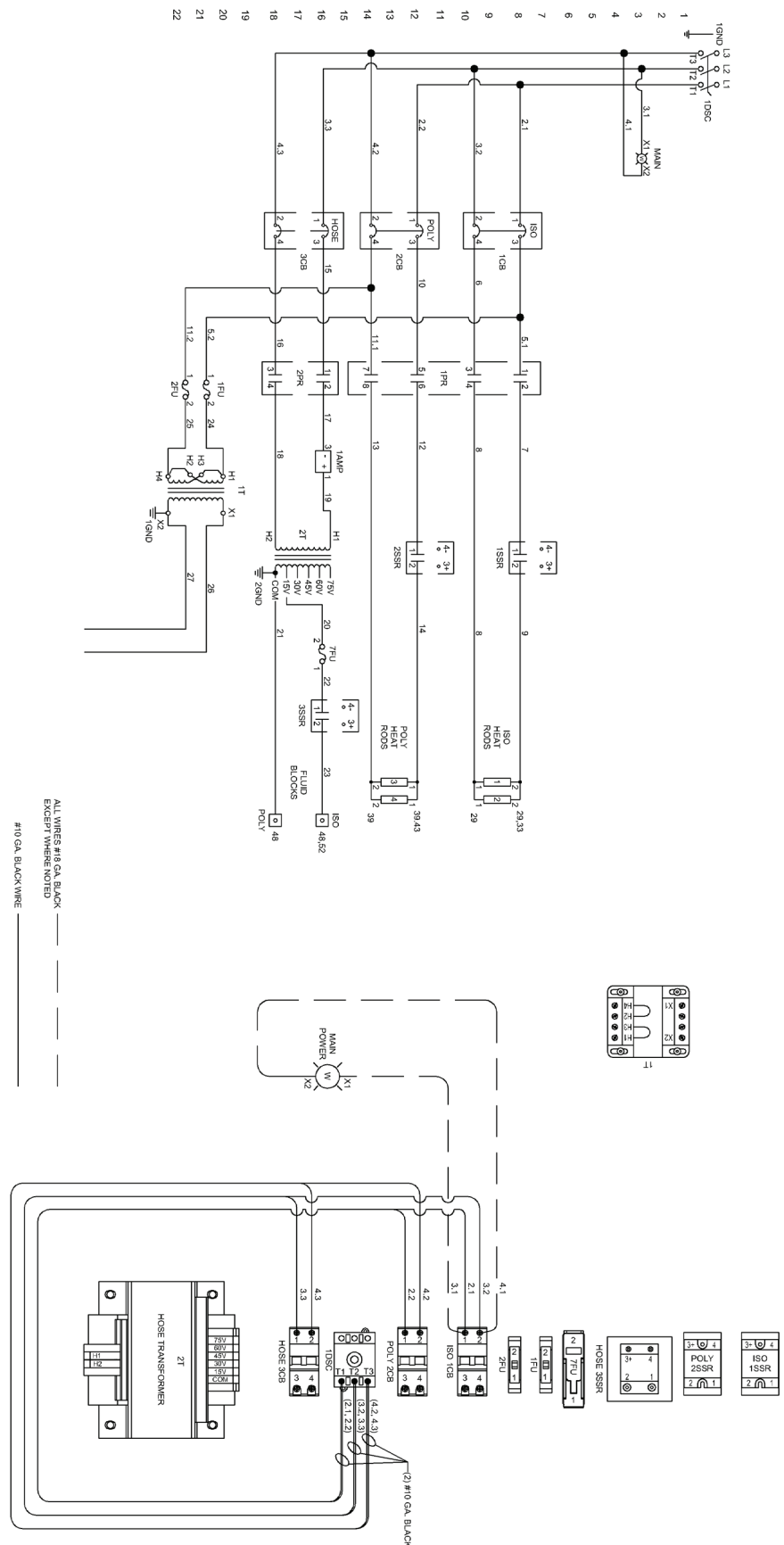


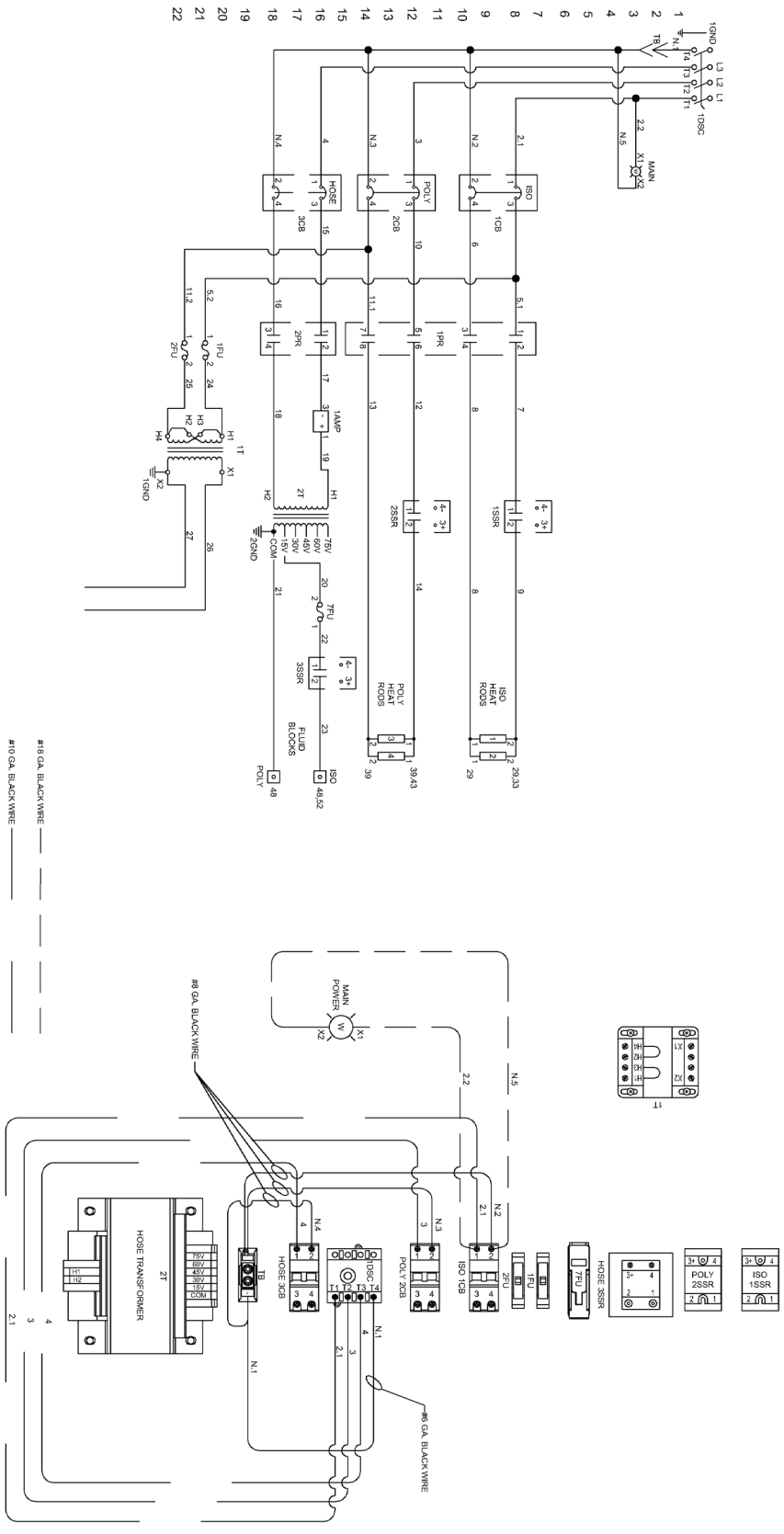
GUARDIAN GENERIC SCHEMATIC 220V 1PH, 220V 3PH, AND 380V 3PH

Section 3 - General Information: Assembly Drawings

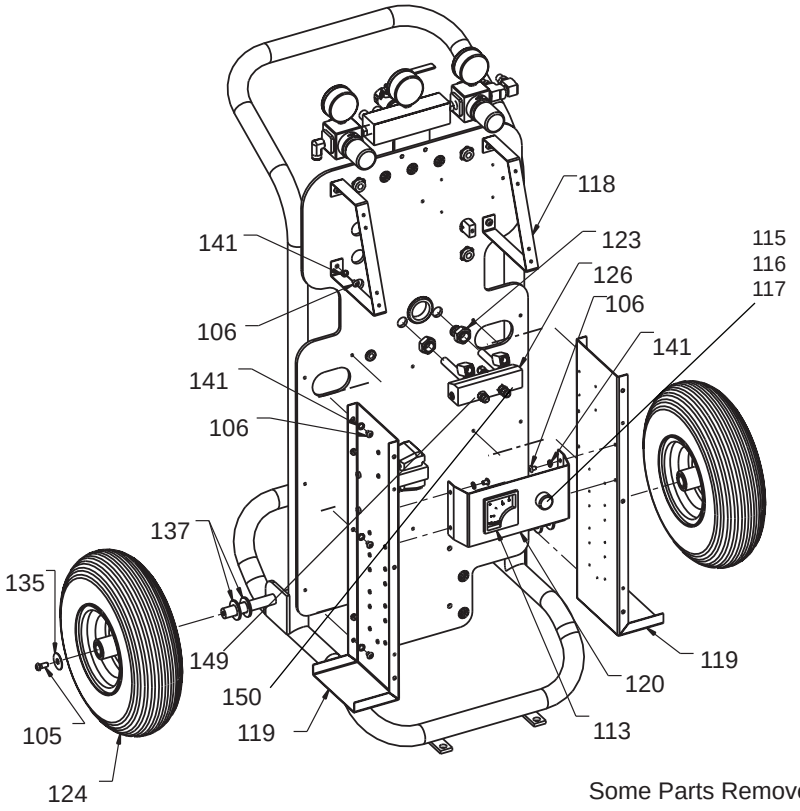


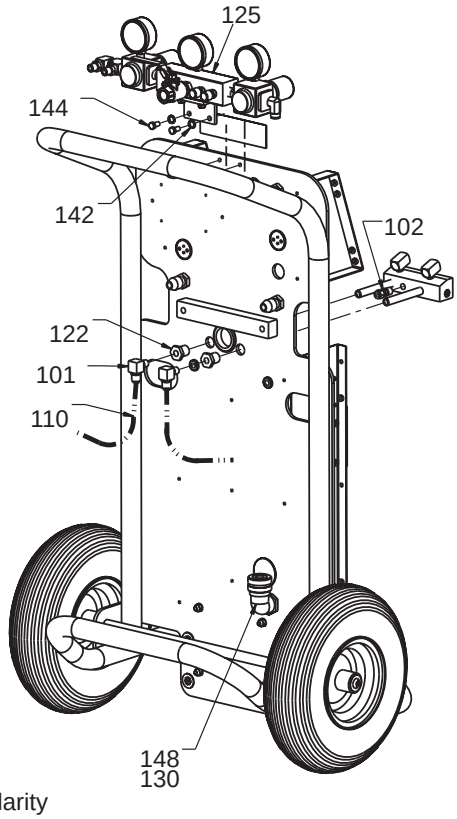
Section 3 - General Information: Assembly Drawings



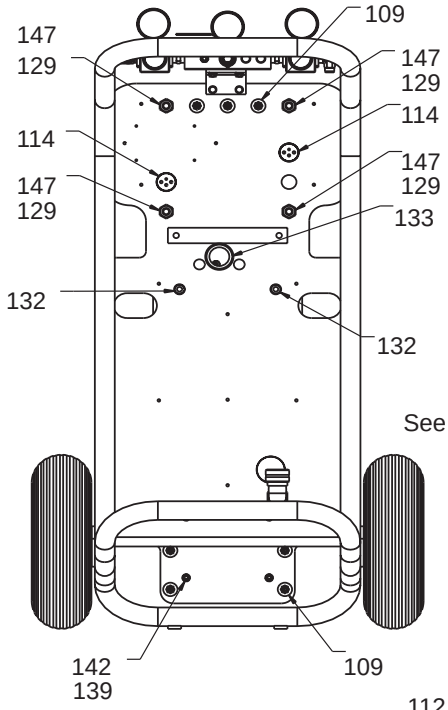

380 VOLT THREE PHASE ONLY
#16 GA. BLACK WIRE
#10 GA. BLACK WIRE
#8 GA. BLACK WIRE
#6 GA. BLACK WIRE
1GND
TR
MAIN
HOSE
POLY
ISO
1CB
2CB
3CB
1PR
2PR
1SSR
2SSR
3SSR
1FU
2FU
7FU
1AMP
1T
2T
2GND
POLY HEAT RODS
ISO HEAT RODS
FLUID BLOCKS
MAIN POWER
HOSE TRANSFORMER
HOSE 3CB
POLY 2CB
ISO 1CB
HOSE 3SSR
POLY 2SSR
ISO 1SSR
DISC
TB
75V
60V
45V
30V
15V
COM

Cart Assembly





Some Parts Removed For Clarity



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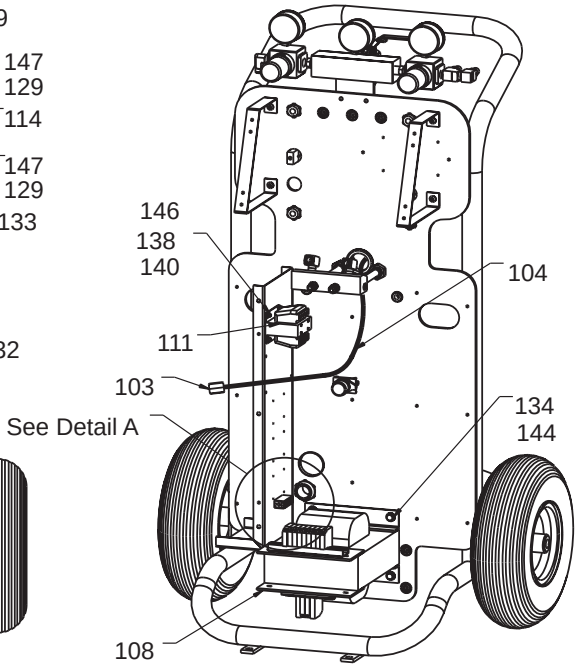
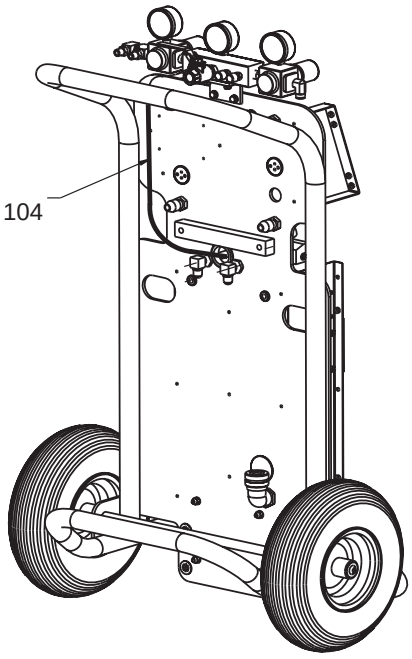
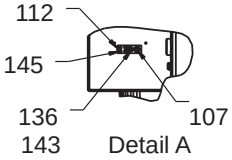






Cart Assembly

Ref.	Part	Description	Qty.
101	GC0012	ELBOW	2
102	GC0148	CONNECTOR	1
103	GC0217	ADAPTER	1
104	GC0286	HOSE, ASSY	1
105	GC0409	SCREW	2
106	112925	SCREW	14
107	GC0437	SCREW	1
108	GC0585	TRANSFORMER, TOUCH SAFE	
109 ☆		RETAINER,PLUG, VENT, RETAINER	7
110	GC0790	HOSE, ASSY	2
111	GC0999	TRANSFORMER, BOX, CONTROL	1
112	GC1040	CONNECTOR	1
113	GC1042	AMMETER, 30A	1
114	15W209	JACK, PANEL, CIRCULAR	2
115	GC1612	PLATE, COUPLING	1
116	GC1621	LIGHT, PILOT	1
117	GC1625	LIGHT, LED, WHITE, 240V	1
118	GC1719	HANGER, PANEL, CONTROL	2
119	GC1723	COVER, HEATER	2
120	GC1724	BRACKET, AMMETER	1
122	GC1738	FITTING, BULKHEAD	2
123	GC1739	NUT, BULKHEAD	2
124	GC1743	WHEEL	2
125	GC1749	MANIFOLD, ASSY, AIR	1
126	GC1754	MANIFOLD, ASSY, FLUID	1
129	GC1999	NUT, CONDUIT	4
130 ☆		NUT, CONDUIT	1

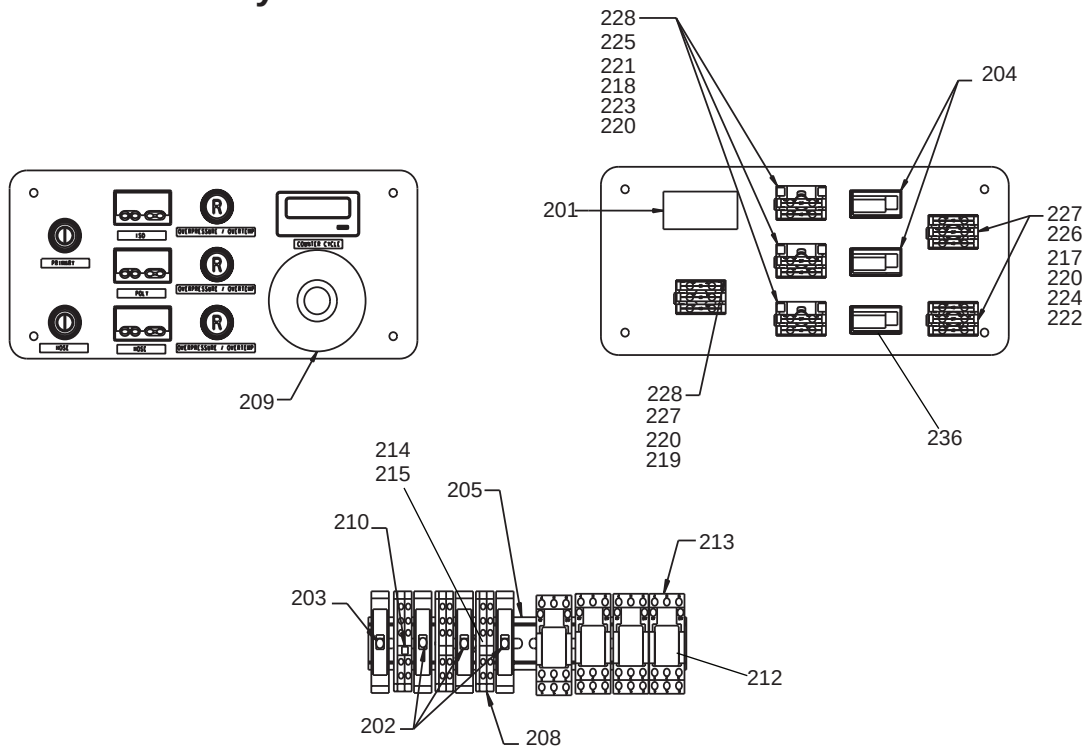
Ref.	Part	Description	Qty.
132 ☆		GROMMET, RUBBER	2
133 ☆		GROMMET, RUBBER	1
134	GC2044	WASHER, FLAT, STD,	4
135	GC2045	WASHER, FLAT, FENDER	2
136	GC2048	WASHER, FLAT, STD	1
137 ☆		WASHER, FLAT, STD	4
138	GC2052	WASHER, FLAT, STD	4
139	GC2096	NUT, HEX, STD	4
140	GC2107	WASHER, LOCK, SPRING	5
141	GC2109	WASHER, LOCK, SPRING	14
142	GC2110	WASHER, LOCK, SPRING	6
143	GC2119	SCREW	1
144	GC2180	SCREW	6
145 ☆		SCREW	4
146	GC2192	SCREW	4
147	GC2372	GRIP, CORD	4
148 ☆		CONNECTOR	1
149	117455	FITTING, #5 JIC x 1/4 NPT	1
150	GC2207	FITTING, #6 JIC x 1/4 NPT	1

☆ *Purchase locally.*

Part	Description	Qty.
GC0020	FITTING	3
GC0222	REGULATOR, AIR	2
GC0240	GAUGE, AIR	2
GC0241	GAUGE, AIR	1
☆	ELBOW	1
GC0755	VALVE, BALL	1
GC1720	BRACKET, L	1
GC1732	MAINFOLD, AIR	1
GC0000	CAP, OILER	2
GC0001	GASKET, CAP, OILER	4
GC1994	ELBOW	1
GC2016	FITTING, PIPE, TEE	1
GC2110	WASHER, LOCK, SPRING	2
GC2167	NIPPLE, PIPE, HEX	2
GC2169	NIPPLE, PIPE, HEX	2
GC2170	NIPPLE, PIPE, HEX	1
GC2179	SCREW	2
GC1772	LABEL, MANIFOLD	1

Section 3 - General Information: Sub Assembly Drawings

Control Panel Assembly

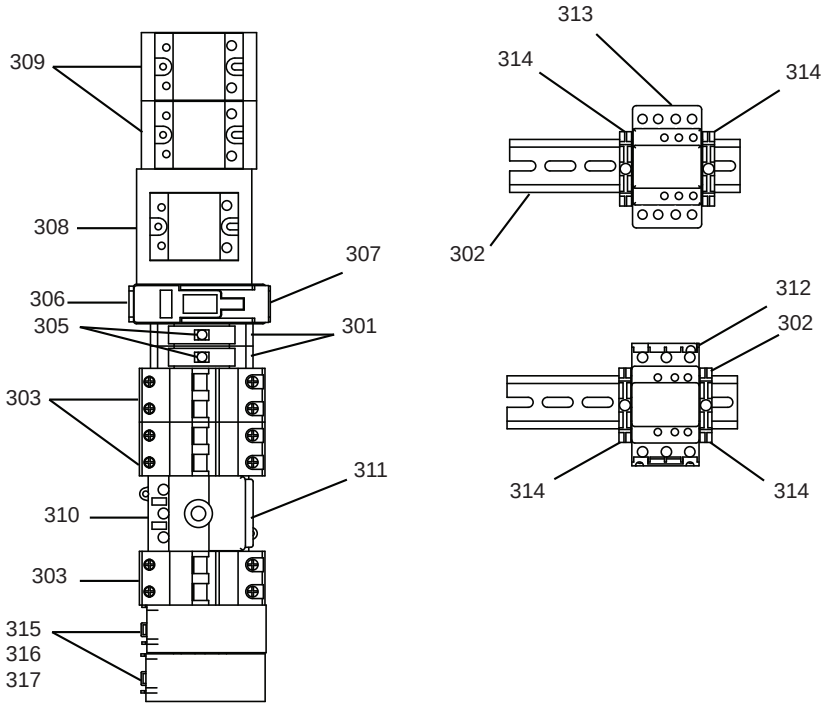


Ref.	Part	Description	Qty.
201	GC0584	COUNTER, LCD	1
202	GC0599	FUSE, 1/2 AMP	3
203	GC0601	FUSE, 2AMP	1
204	15W684	MODULE, HEATER, CONTROL	2
205 ☆		RAIL, DIN; 0.875	
208	GC0859	FUSE, FUSEHOLDER, DIN RAIL	4
209	GC0956	LABEL, EMERGENCY STOP	1
210	GC0972	BLOCK, JUMPER, TERMINAL	2
212	GC1161	RELAY, 3 POLE 10AMP	4
213	GC1164	SOCKET, RELAY, 3 POLE, 10AMP	4
214	GC1172	TERMINAL, 2IN/2OUT	6
215	GC1173	COVER, END, TERMINAL, 2 in., 2 OUT	3
217	GC1608	BUTTON, LATCHED	2
218	GC1609	BUTTON, MOMENTARY	3
219	GC1611	BUTTON, EMERGENCY STOP	1
220	GC1612	PLATE, COUPLING	6

Ref.	Part	Description	
221	GC1614	LENS, ILLUMINATED, "R"	3
222	GC1616	LENS, ILLUMINATED, "I/O"	2
223	GC1617	LENS, YELLOW	3
224	GC1619	LENS, GREEN	2
225	GC1622	LED, YELLOW, 24V	3
226	GC1624	LED, GREEN, 24V	2
227	GC1626	BLOCK, CONTACT, NORMALLY OPEN	5
228	GC1627	BLOCK, CONTACT, NORMALLY CLOSE	5
230	GC1779	CABLE, PLUG, ELEC., FEMALE	2
231	GC1780	CABLE, PLUG, ELEC.,FEMALE	1
232	GC1782	CABLE, PLUG, ELECTRICAL, MALE	2
233	GC1783	CABLE, PLUG, ELECTRICAL, MALE	1
236	15W687	MODULE, HOSE CONTROL	1

☆ *Purchase locally.*

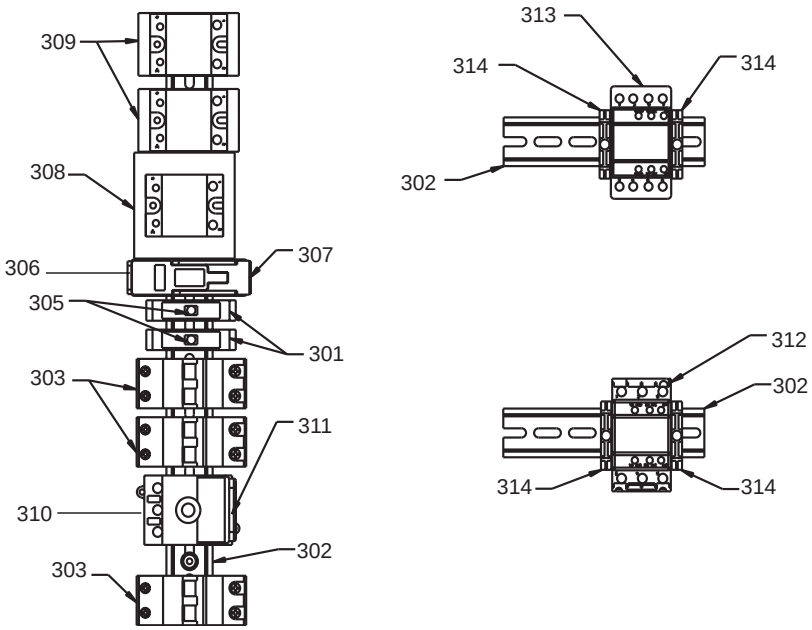
GC2440 (380V, 1 Phase) Electrical Assembly



Ref.	Part	Description	Qty.
301	GC0601	FUSE, 2AMP	2
302 ☆		RAIL, DIN; 2.4	
303	GC0851	CIRCUIT BRKR, DIN RAIL	3
305	GC0859	FUSE, FUSEHOLDER, DIN RAIL	2
306	GC0974	BLOCKFUSE, 63AMPS	1
307	GC1000	FUSE, 63AMP, TAB, BOLTED	1
308	GC1014	RELAY, SOLID STATE, 63A	1
309	GC1015	RELAY, SOLID STATE, 50A	2
310	GC1055	SWITCH, ON/OFF, 3 POLES	1
311	GC1060	COVER, BLOCK, SWITCH, ON/OFF	1
312	GC1088	RELAY, CONTACTOR, MECHANICAL, 25A	1
313	GC1262	RELAY, CONTACTOR, MECHANICAL, 4-POLE	1
314	GC1651	CLAMP, END, TERMINAL, UNIVERSAL	4
315	GC1030	BLOCK, TERMINAL	2
316	GC1033	SPACER, BLOCK, TERMINAL	4
317	GC1036	COVER, BLOCK, TERMINAL	2

☆ *Purchase locally.*

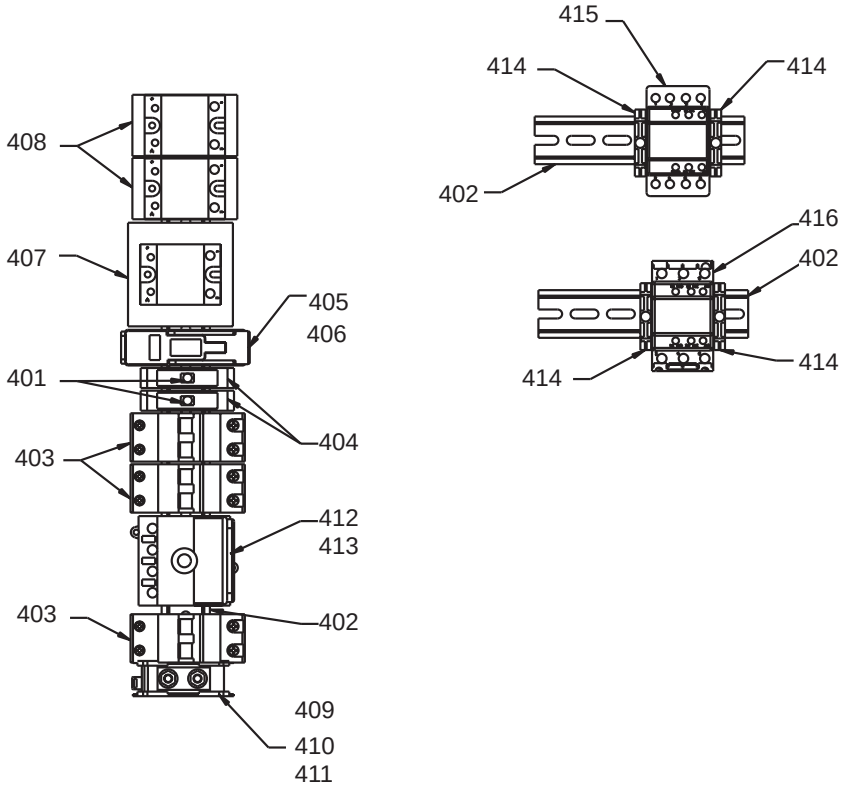
GC1758 (220V, 3 Phase) Electrical Assembly



Ref.	Part	Description	Qty.
301	GC0601	FUSE, 2AMP	2
302 ☆		RAIL, DIN; 2.4	
303	GC0851	CIRCUIT BRKR, DIN RAIL	3
305	GC0859	FUSE, FUSEHOLDER, DIN RAIL	2
306	GC0974	BLOCKFUSE, 63AMPS	1
307	GC1000	FUSE, 63AMP, TAB, BOLTED	1
308	GC1014	RELAY, SOLID STATE, 63A	1
309	GC1015	RELAY, SOLID STATE, 50A	2
310	GC1055	SWITCH, ON/OFF, 3 POLES	1
311	GC1060	COVER, BLOCK, SWITCH, ON/OFF	1
312	GC1088	RELAY, CONTACTOR, MECHANICAL, 25A	1
313	GC1262	RELAY, CONTACTOR, MECHANICAL, 4-POLE	1
314	GC1651	CLAMP, END, TERMINAL, UNIVERSAL	4

☆ *Purchase locally.*

GC1760 (220V, 3 Phase) Electrical Assembly

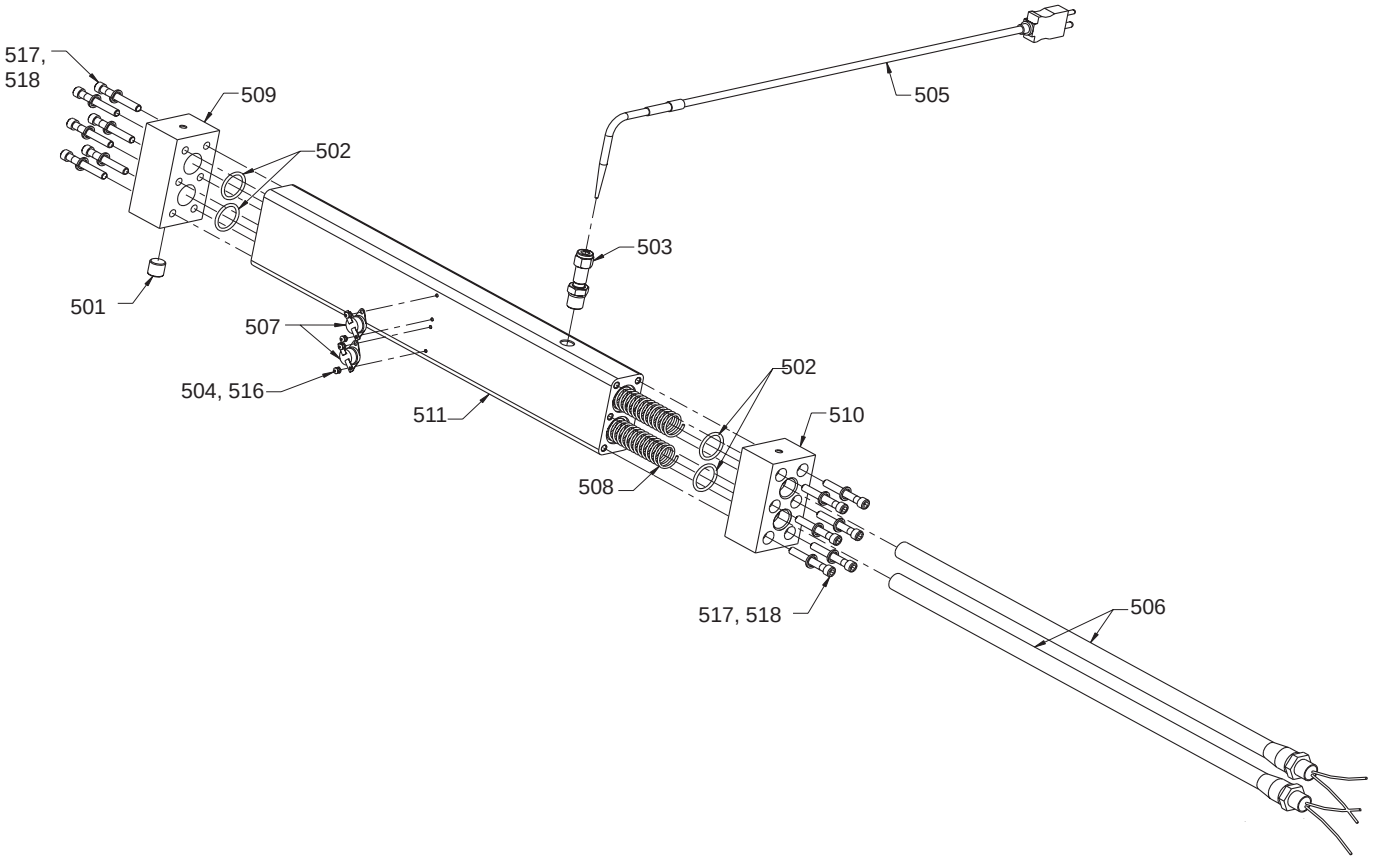


Ref.	Part	Description	Qty.
401	GC0601	FUSE, 2AMP	2
402 ☆		RAIL, DIN, 2.4	
403	GC0851	CIRCUIT BRKR, DIN RAIL	3
404	GC0859	FUSE, FUSEHOLDER, DIN RAIL	2
405	GC0974	BLOCK, FUSE, 63AMPS	1
406	GC1000	FUSE, 63AMP, TAB, BOLTED	1
407	GC1014	RELAY, SOLID STATE, 63A	1
408	GC1015	RELAY, SOLID STATE, 50A	2

Ref.	Part	Description	Qty.
409	GC1030	BLOCK, TERMINAL, CURRENT, HIGH	1
410	GC1033	SPACER, BLOCK, TERM, CURRENT, HIGH	2
411	GC1036	COVER, BLOCK, TERM, CURRENT, HIGH	1
412	GC1056	SWITCH, ON/OFF, 4 POLES	1
413	GC1061	COVER, BLOCK, SWITCH, ON/OFF, 4POL	1
414	GC1651	CLAMP, END, TERMINAL, UNIVERSAL	4
415	GC1262	RELAY, CONTACTOR, MECHANICAL, 4-POLE	1
416	GC1088	RELAY, CONTACTOR, MECHANICAL,25A	1

☆ *Purchase locally.*

GC1714, GC1715, GC1716, GC1717 Heat Exchanger Assembly



Ref.	Part	Description	Qty.
501	GC0025	PLUG, PIPE	1
502	GC1748	KIT, O-RING (kit includes 4)	4
503	GC0482	CONNECTOR	1
504	GC0554	SCREW	4
505	GC0559	THERMOMETER, THERMOCOUPLE, VELOCITY, HIGH	1
506		ELEMENT, HEATER; SEE TABLES	2
507	GC0962	SWITCH, OVERTEMP	2
508	GC1226	SPRING, COMPRESSION,	2
509	GC1711	CAP, FRONT, HEATER, DUAL	1
510	GC1712	CAP, REAR, HEATER, DUAL	1
511	GC1713	HOUSING, BODY, EXTRUDED, HEATER	1
512 ❖	GC1773	CABLE, PLUG, ELEC., FEMALE	1
513 ❖	GC1774	CABLE, PLUG, ELEC., MALE	1
514 ❖	GC1778	CABLE, PLUG, ELEC., FEMALE	1
515 ❖	GC1781	CABLE, PLUG, ELEC., MALE,	1
516	GC2105	WASHER, LOCK, SPRING	4
517	GC2109	WASHER, LOCK, SPRING	12
518	GC2151	SCREW	12

ISO MODEL	506	WATTS	Qty.
GC1714	GC0891	1500	2
GC1715	GC0893	750	2

POLY MODEL	506	WATTS	Qty.
GC1716	GC0891	1500	2
GC1717	GC0893	750	2

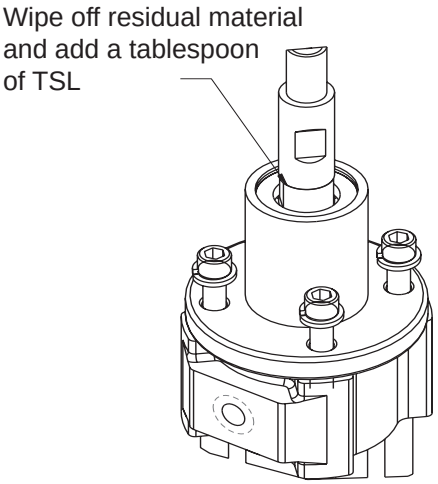
❖ *Not Shown.*

Daily Routine Maintenance

1. Visually inspect the system for leaks.

2. Check desiccant dryer to ensure proper functioning. Replace dryer beads as necessary.

3. Check and lube top of the fluid section.



Weekly Maintenance

1. Place a small amount of grease on the air motor shaft.

2. See related manuals.

⚠
Do not place any part of the body in the path of the material spray.
Do not point the gun at or near other personnel.
Do not look into the Mixing Chamber orifice at any time.
Because of the hazardous materials used in this equipment, it is recommended that the operator use an air mask, goggles, protective clothing, and other safety equipment as prescribed by current regulations, recommendations of the chemical sup pliers, and the laws in the area where the equip ment is being used.

The system will dispense liquid at high pressure when Gun Trigger is activated. Read and note WARNINGS contained in this User Manual and the Probler P2 Gun User Manual, 313213.

⚠
The Polyol will expand in the Hose if any normal operating pressures are bled off whenever the material is above approximately 75 degrees F. Hot Polyol hoses should never be bled, by any method, to zero pressure for two reasons.
1. The seals in the Gun rely on high pressure to make their seal. The high pressure cannot be maintained if the pumps are attempting to apply this pressure through a hose full of expanded froth; therefore, the Gun seal may leak.
2. Re-starting immediately after hot Polyol has expanded in the system may result in spraying substantial amounts of "bad" foam. This will continue until the expanded Polyol in the primary Heater and the Hose has been completely purged.

Over Pressure System Protection

The system incorporates monitors for high pressure monitoring. These monitoring devices will prevent the system from continued operation if high pressure situations develop.

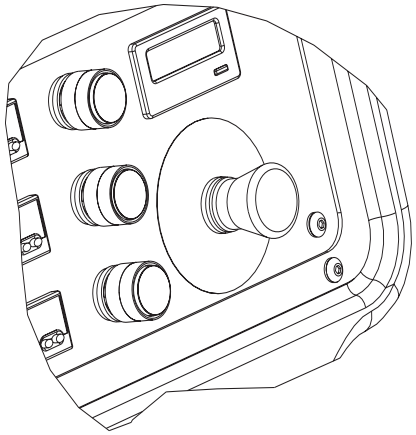
There are pressure sensors located on each propor tioning pump. The high pressure sensor is located at the outbound of the fluid section.

The high pressure monitoring sensor will engage if fluid pressure increases above 2000 psi.

If a high pressure situation develops, the sensor will detect this and immediately engage the hold-in circuit.

This will disengage power to the air motor and will also turn the heaters off.

On the control box panel, there are three yellow lighted push buttons marked over pressure. One of these push buttons will be illuminated after the monitoring sensor engages, indicating where the problem is located (ISO, Poly, or Hose).



In the over pressure situation, the system will remain shutdown until it is manually reset.

At this point, it is necessary to determine if the problem is an over pressure situation.

When the sensor engages, the system will be frozen, giving you the pressure readings at the time the problem was detected.

Inspect the fluid pressure gauges, in an over pressure situation, one of the fluid pressure gauges will be significantly higher than the other gauge.

⚠
When main power to unit is on, the console will have wires that are live. Disconnect or turn off main power source before opening console to make any repairs.

⚠
Before performing any repairs on the system,
ALL AIR and FLUID PRESSURES SHOULD BE RELIEVED TO ZERO (BLEED-OFF)!

Over Pressure Problem Correction

1. Determine if the problem is high pressure related.

2. Relieve system material pressure.

3. Turn off main power.

4. Fix the problem area:
a. Potential high pressure causes:
-Restriction
-Overheating material in static position
-ISO filter at gun

5. Re-start system for operation

Once the power has been turned off and problem solved, and the main power is turned on again, the over pressure lighted buttons will automatically be reset.

⚠
If you do not understand the electrical hook-up de scribed above, consult your local GlasCraft distributor OR a qualified electrician.

It is recommended that a qualified, licensed electrician should install power to the supply disconnect.

You should always follow all local or national electrical codes.

⚠
Disconnect power source BEFORE attempting any repairs or opening the Control Boxes. Access to internal parts is limited to qualified personnel ONLY!
Place Main Power Switch in OFF position BEFORE disconnecting power cables. This equipment is not approved for use in hazardous locations as set forth in the National Electrical Code Article 500 and Sub-Part "S" of the OSHA Standards.

Material Or Mechanical Problem

Troubleshooting Procedure

By following this procedure, you should be able to locate and cure problems easily. Remember, however, that a successful operator must know:

- WHAT GOOD MATERIAL LOOKS LIKE.
- HOW THE EQUIPMENT NORMALLY OPERATES.
- WHAT PATH THE MATERIALS FOLLOW THROUGH THE EQUIPMENT.
- KNOWLEDGE OF THESE TROUBLESHOOTING PROCEDURES.

Always start with step one, never skip any portion of these procedures. The material pressure gauges are to be used for troubleshooting purposes only. The pressures registered on one gauge will not necessarily match the other. This difference can be caused by variance in materials, temperatures, viscosities, etc.

1. Identify the missing material.

2. Check the material pressure gauge on the missing material side.

a. If the missing material gauge reads HIGHER than normal, there is a RESTRICTION problem between the gauge and the Mixing Chamber tip in the Gun.

b. If the missing material gauge reads LOWER than normal, there is a STARVATION problem between the gauge and the material supply system.

Problems may be cyclic in that they will appear first on only one stroke of the Proportioning Pump. Check the pressure gauges during one of these bursts of missing materials and always stop spraying while you are getting a burst of good material.

3. Concern yourself only with the material pressure on the missing material side. In troubleshooting a STARVATION problem where the pressure gauge on the missing material side is LOWER than normal, start at the point farthest from the unit and work forward. Check the obvious and easy things first.

A. MATERIAL DRUMS
1. Material in drums?
2. Material temperature?
   a. If the material is too cold, especially at the bottom of the drum, it will raise the viscosity of the material and stall Transfer Pumps.

B. OPTIONAL TRANSFER PUMP(S)
1. Is it operating?
2. Is air turned on to transfer pump?
3. Regulated pressure where it should be?
4. Severe contamination of pump shaft on isocyanate side. This indicates that the pump shaft is not being lubricated.
5. Check Filter of transfer pump.
6. Before diagnosing a faulty transfer pump, be sure and check all items just listed under Transfer Pump.

C. FILTER ASSEMBLY
1. Check fluid filter at inlet to proportioning pumps if applicable.

D. PROPORTIONING PUMPS
1. Determine whether the burst appears on the Pump's up or down stroke.
   a. If burst appears on UP stroke, check UPPER ball Seat and cups.
   b. If burst appears on DOWN stroke, check LOWER Ball Seat

Follow the procedures in the order given. Remember that repairs should be made as soon as possible. Don't leave the unit open to air any longer than necessary, as this will lead to further problems, such as moisture entering the system and causing the isocyanate to crystallize.

After the unit has been exposed to the atmosphere, it should be run long enough to displace the material that was in the unit when it was opened up.
NEVER inspect filter assemblies at time of shut-down!

4. In troubleshooting, a restriction problem where the material pressure gauge on the missing material side is higher than normal, start at the point farthest from the unit and work backward. Check obvious and easy things first.

⚠
Before performing any repairs on the gun, ALL AIR and FLUID PRESSURES SHOULD BE RELIEVED TO ZERO (BLEED-OFF)!

A. GUN
1. Side block material valve turned on?
2. Bore hole of mixing chamber clean?
3. Filter strainer screen clean?
4. Side hole in mixing chamber clean?

B. MATERIAL TEMPERATURE
1. Too high a temperature on resin side can cause a blowing agent to pre-expand in either the hose or the primary heater.

C. HOSES
1. Make sure that the Hoses are not plugged.

TROUBLESHOOTING A POOR SPRAY PATTERN

To troubleshoot a poor spray pattern, you must understand the factors that affect the spray pattern.

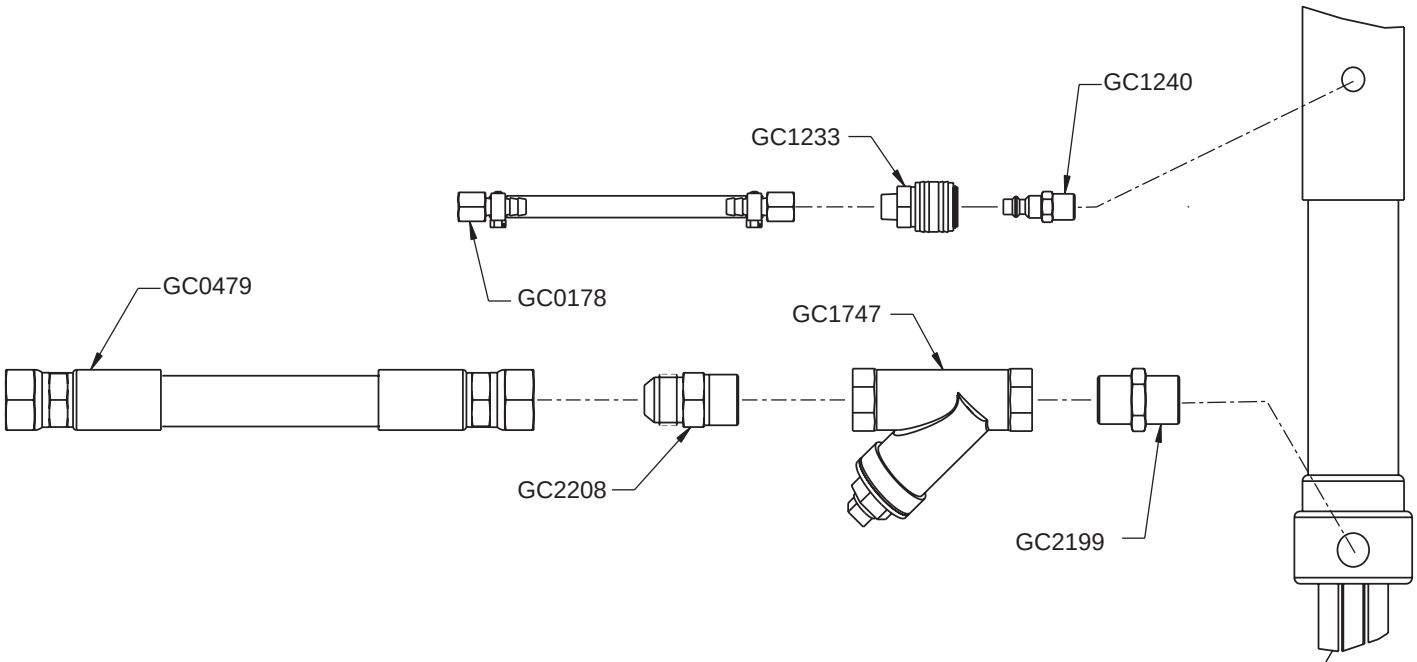
A. TEMPERATURE
1. Too warm a material temperature will cause a separation (fingering) in the pattern.
2. Too cold a material temperature will cause a stream effect.

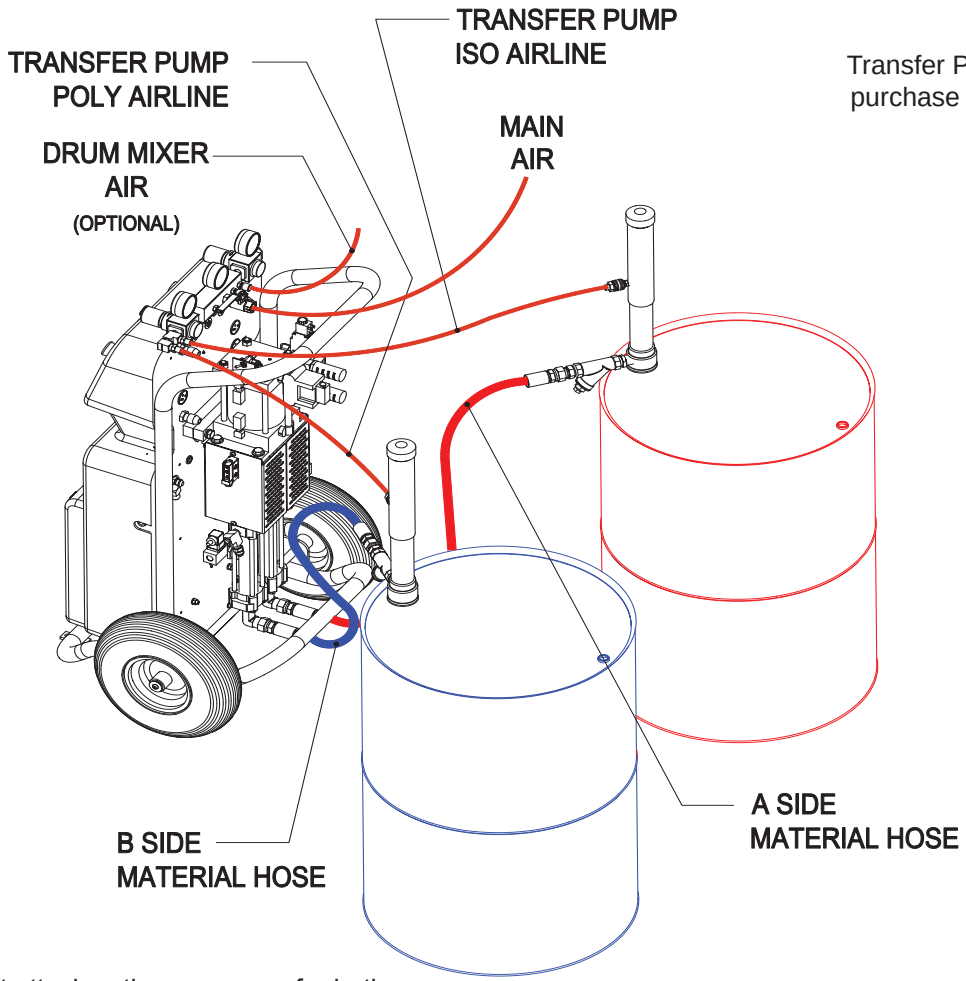
B. PRESSURE
1. Too high a pressure will cause excessive overspray and/or separation (fingering).
2. Too low a pressure will cause a stream effect.

C. CONTAMINATION IN THE MIXING CHAMBER
1. A foreign object in the mixing chamber will cause a poor pattern.

Correct problem(s) immediately!

GC0174 Transfer Kit (supplied with unit)





The transfer kit attaches the same way for both ISO & POLY side. Use PTFE tape on NPT threads.

Section 4 - Warranty and Reference Information: Limited Warranty Policy

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

Graco Information

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.
Phone: 612-623-6921 or Toll Free: 1-800-328-0211 Fax: 612-378-3505

PARA EFETUAR ENCOMENDAS OU PARA ASSISTÊNCIA TÉCNICA, contate o seu distribuidor da Graco.
POUR PLACER UNE COMMANDE OU DEMANDER DU SERVICE, contactez votre distributeur Graco.
PARA REMITIR UN PEDIDO O SOLICITAR SERVICIO, póngase en contacto con el distribuidor de Graco.

Section 4 - Warranty and Reference Information: Technical Assistance

Thank You for selecting GlasCraft spray equipment

Should you have any questions or need technical assistance, contact your factory authorized GlasCraft distributor.

Distributor: _____

Phone: _____

Contact: _____

For any issues your distributor cannot address, the GlasCraft technical service department is always available to assist you with the operation of your spray equipment. To help our technical representatives expedite your call and better address your questions, please have the following information ready and available when you phone GlasCraft.

*** If your questions are not urgent, please call 1-800-328-0211.**

Model: _____
Serial number: _____

Type of spray gun: _____
Serial number: _____

Is your equipment:

Single phase: _____ Three phase _____

What is the inbound voltage
to your equipment: _____

Temperature setting ISO: _____

Temperature setting POLY: _____

Temperature setting HOSE: _____

For Air Powered Systems:

Air compressor size: _____
CFM generated: _____

Pressure at the system:

Hydraulic _____ Pneumatic _____

Dynamic fluid pressure:

ISO _____ POLY _____

Spray gun chamber size: _____

Material being sprayed: _____

Viscosity: ISO _____ POLY _____

Approximate material temperature: _____

For Your Reference

GlasCraft
DISPENSING EXCELLENCE

Date Purchased _____
Distributor _____

_____

Contact _____
Phone _____
E-mail _____

GlasCraft manufactures a complete line of polyurethane foam and polyurea coating spray systems. If your application is in-plant or a field contractor - GlasCraft has a system package to meet your requirements.

GUARDIAN - AIR POWERED / A5 & A6 SERIES EQUIPMENT

- **6000 OR 12000 WATTS OF HEAT**
- **1600, 2200, OR 3000 PRESSURE SET-UPS AVAILABLE**

MH, MH II, & MH III HYDRAULIC POWERED SYSTEMS

- **UP TO 45 LBS / MINUTE OUTPUT**
- **EXCELLENT PERFORMANCE AND RELIABILITY**

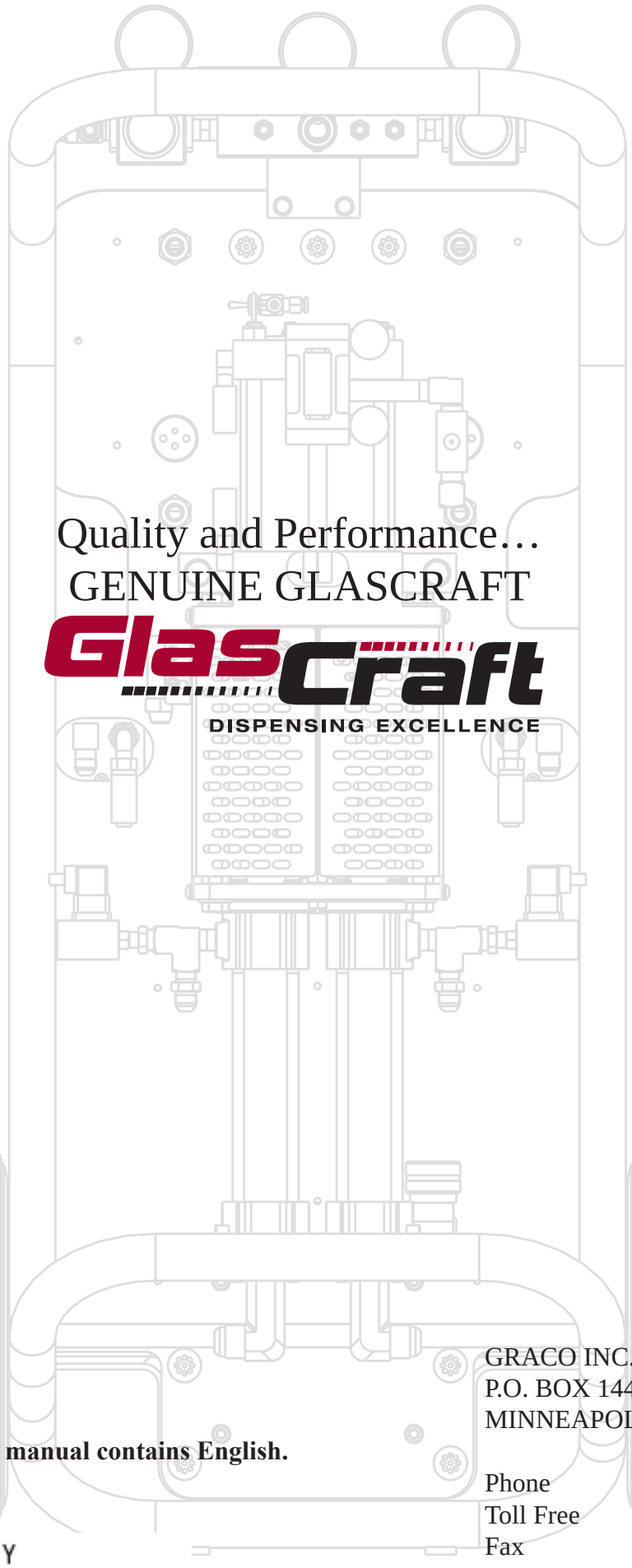
GUARDIAN MMH - MOBILE MODULAR HYDRAULIC SYSTEMS

- **SPECIFICALLY DESIGNED FOR ANY TYPE OF SPRAY RIG**
- **GIVE COMPLETE UTILIZATION OF FLOOR SPACE IN MOBILE RIG**

PROBLER P2 SPRAY GUN

- **IMPINGEMENT MIX / AIR PURGE**
- **OPTIONAL NOZZLE FOR SPRAYING STUD WALLS, POURING & STREAM JET**

For more information concerning any of these GlasCraft products,
contact your local authorized GlasCraft distributor or visit www.glascraft.com



Quality and Performance…
GENUINE GLASCRAFT

GlasCraft
DISPENSING EXCELLENCE

ADS
ADVANCED DISPENSE SYSTEMS

www.glascraft.com
Original instructions. This manual contains English.
313268C
Revised 06/2011

A GRACO COMPANY

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